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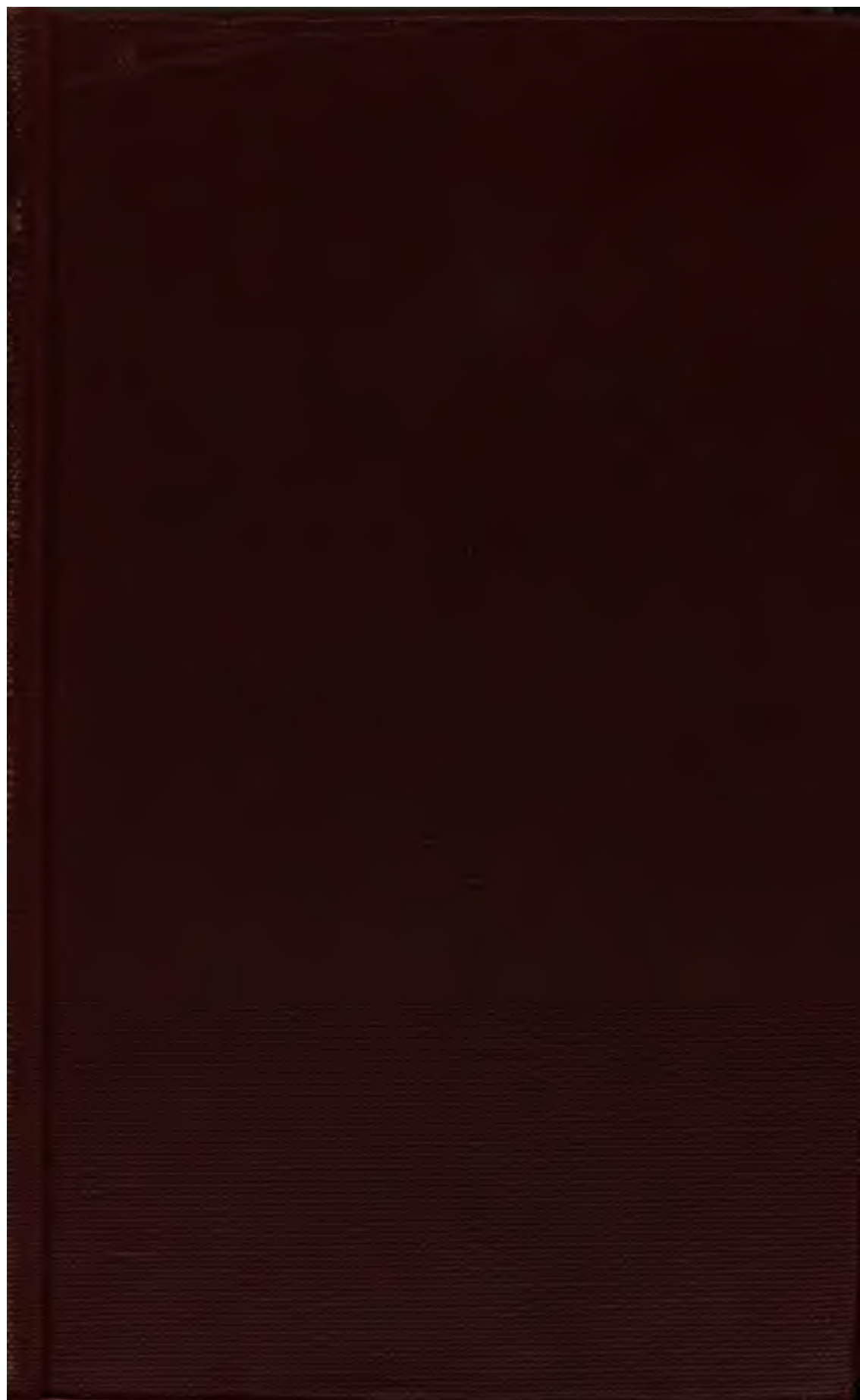
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INVESTIGATION OF PANAMA CANAL MATTERS.

HEARINGS

BEFORE THE

COMMITTEE ON INTEROCEANIC CANALS

OF THE

UNITED STATES SENATE

IN THE MATTER OF THE SENATE RESOLUTION
ADOPTED JANUARY 9, 1906,

PROVIDING FOR

AN INVESTIGATION OF MATTERS RELATING
TO THE PANAMA CANAL, ETC.

Vol. III.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1906.

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116
1902

JUN 9 1906
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ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Tuesday, March 20, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Ankeny, Morgan, Taliaferro, and Simmons.

FURTHER STATEMENT OF JOHN F. WALLACE, ESQ.

Senator KITTREDGE. Mr. Wallace, you testified before the committee some time ago regarding administrative matters.

Mr. WALLACE. Yes, sir.

Senator KITTREDGE. In that testimony you gave us the date when you first became connected with the canal as chief engineer.

Mr. WALLACE. Yes, sir.

Senator KITTREDGE. Do you remember what that date was?

Mr. WALLACE. That was June 1, 1904.

Senator KITTREDGE. And you continued as chief engineer until what date?

Mr. WALLACE. Until June 29, 1905.

Senator KITTREDGE. About the 1st of April, 1905, you became a member of the Canal Commission?

Mr. WALLACE. Yes, sir.

Senator KITTREDGE. And continued in that capacity until the same date in June?

Mr. WALLACE. The same date; yes, sir.

Senator KITTREDGE. So that in addition to your duties as chief engineer you were also a member of the Commission from about April 1, 1905, until June 29, 1905?

Mr. WALLACE. Yes, sir. After April 1, 1905, I was chief engineer, member of the executive committee, and Commissioner. About the 10th of April the Panama Railroad was put in my charge on the Isthmus as vice-president and general manager, but I was not able to assume charge of that road on the Isthmus until I returned there about the 25th of May, 1905.

Senator KITTREDGE. You have read the report of the Board of Consulting Engineers?

Mr. WALLACE. I have.

Senator KITTREDGE. And the views of the minority of that Board?

Mr. WALLACE. Yes, sir.

Senator KITTREDGE. Will you please advise us of the type of canal which, in your judgment, ought to be recommended by this committee to the Senate for construction?

Mr. WALLACE. Mr. Chairman, my single purpose in appearing before you at this time is to give you the very best judgment I have been able to form upon the two matters you are now considering and as to which I have, as you know, a very considerable knowledge. I need not repeat the experiences which I think justify me in speaking with some little authority upon the engineering problems before you, and I think I fully explained the somewhat exceptional practice I have had in dealing with large problems of construction similar in many respects to the problems confronting you in the matter of the Panama Canal.

I wish, therefore, simply as an American citizen, to put the judgment which I have formed on the basis of these experiences before you, and through you before the Congress, to assist in reaching what I am sure every member of it, of both parties, ardently desires to reach—a conclusion as to the best type of canal and the best method of doing the work involved in its construction. Of course I recognize that the committee may well differ from me and the majority of the Board of Consulting Engineers for the Panama Canal as to type of canal and may differ far more with far greater freedom as to the best method of constructing it, but I feel that I will have done my full duty when I have laid my views before you and given you, as far as I am able, the reasons upon which they rest in my own mind.

In considering the question of alternate plans for the canal, whether it should be upon a high level with locks, or upon a sea level without locks, my judgment as an engineer is controlled by several principles which commend themselves to me as really fundamental, and so far as I am concerned, conclusive.

In the first place it must be conceded that an approximately straight sea-level canal, of ample width and depth, is the best type of canal, and that any other plan which places restrictions upon the probable permanency of the canal itself, as well as upon the speed and the size and number of vessels passing through it, must necessarily render the canal far less valuable and far less desirable than if such doubt as to its permanency and such restrictions did not exist.

In the second place, it must be equally admitted that the only deterrent elements in accomplishing the more desirable result—that of the sea-level canal—are the two factors of relative time and cost, when this most desirable form is contrasted with the far less desirable form of a high-level canal with locks.

In the third place, it must be admitted that a very proper way to approach a discussion of the relative desirableness of these types would be to consider how much money the American people may be supposed to be willing to invest in the canal and how long they may be supposed to be willing to wait for its proper accomplishment.

After these important factors are determined the committee ought to be able to readily decide which of the two types of canal seems to it to be the better and to give its approval to the type it prefers.

Now, as to the cost. We have told the civilized world that the United States of America are willing to construct the Panama Canal for the benefit of the world and its commerce, including our own; and as we have voluntarily accepted this great duty, it is to be presumed that the people prefer that the Congress should approach it from a broad, general, and liberal standpoint, constructing the most permanent and best possible type of canal, rather than to offer to

the world an inferior type of doubtful permanency, especially as the best type of canal is one which, so far as can now be foreseen, will not have to be materially altered or enlarged and upon which our descendants may look with pride, with no occasion to regret any inefficiency or instability in the work due to our having been too careful of our money or too shortsighted in our engineering judgment.

The amount of tonnage which will pass through the canal when completed is, of course, largely a matter of conjecture, but it is certain that it will be large and ever increasing, and that considerable tonnage will be diverted from the Suez route. The phenomenal increase of tonnage passing year by year through the Suez Canal is a reasonable assurance that the continued prosperity and growth of the commerce of the world will justify the expenditure at Panama of the money required to give such commerce the best possible waterway between the two oceans. Judged by the capitalization and dividends now paid upon the stock of the Suez Canal it is apparent that the rates charged for transit through it are excessive, and on the assumption that the rates for passing through the Panama Canal will be considerably less, a very material saving will be offered to commerce if it takes the Panama route.

Assuming that the present amount of tonnage through the Suez Canal of, say, 10,000,000 tons per annum would pass through the Panama Canal, even at a dollar a ton, there would be an approximate income of \$10,000,000, which is sufficient to justify an expenditure of \$300,000,000. As the commerce passing through it will in the near future pay the interest upon the bonds issued to construct it, without taking into consideration any indirect commercial benefits which would accrue to this country, and without considering the advantages which would be derived from the canal in the improbable event of war, it would seem that an expenditure of \$300,000,000, a sum ample to construct the sea-level canal, would be abundantly justified, considering the probable rapid development of foreign and domestic trade and the indirect results to be derived from this great waterway. Under these conditions the increased expense of constructing a sea-level canal ought not to weigh very heavily in deciding the question of type.

Now, as to the additional time required for a sea-level canal, it may be predicted with some certainty that upon a basis of reasonable energy and the use of proper business methods of administration a sea-level canal can be fully completed in ten, or, to be entirely safe, say twelve years, and a lock canal, even if only 60 feet above sea level, will require seven, or, to be entirely safe, say nine years, on the same basis of energy and administration—a difference of only three years. I make this concession out of abundant caution; but considering that the work on the sea-level canal is plain, ordinary, everyday work of digging and hauling away what is dug, I do not believe very much additional time would be required for the sea-level canal. It does not seem, therefore, that the additional time required for the sea-level canal should seriously militate against deciding upon that type.

It must also be remembered that it is quite possible to secure even increased efficiency over that assumed to be now probable in case the work should be handled by a single contracting firm, unhampered by governmental methods and with every incentive to expedite and complete the work at the earliest possible moment. Indeed, under such

conditions it is very probable that the period suggested could be considerably reduced. Instead of one shift of ten hours the contractor might utilize electric lights and work two shifts.

If it is not too much to hope that the committee will decline to recommend any form of canal which is not capable of being in the future transformed into a sea-level canal without undue interference with the world's traffic and without undue additional cost, this fact alone should take the recommendations of the minority of the board of Consulting Engineers and the recommendations of the majority of the Isthmian Canal Commission out of really serious consideration; for it is difficult to see why any type of canal should now be authorized the destruction of any important feature of which, either by act of God or of man, would block all use of it until its restoration, particularly when such interruption of traffic would almost certainly extend over several years and the world having become accustomed to its advantages would incur such a loss of time with the greatest possible sense of injury.

There is another engineering problem which ought to have careful consideration, and that is whether the Congress will feel justified in indorsing the construction of any dam of large dimensions retaining a head of water of, say, 85 feet, the foundation of which does not extend to bed rock or to some equally impermeable and reliable strata. The engineering question may be thus stated: Is it either safe or wise to authorize the building of a dam $1\frac{1}{2}$ miles long to retain a head of water of 85 feet across an alluvial valley similar to the valley of the Chagres at Gatun, in which exist already two subsurface gorges, one of which alone is 1,000 feet across and 240 feet deep, which has evidently been refilled with a heterogeneous mass of gravel, sand, sandy clay, driftwood, and the general character of detritus brought down into the valley by the mountain streams?

With this situation in view it is greatly to be feared that the dam at Gatun, which is proposed by a minority of the Board of Consulting Engineers and which is indorsed by a majority of the Isthmian Canal Commission, might after some years be found incapable of holding back so great a head of water and withstanding the strain upon it. This apprehension is greatly emphasized by the character of the borings in this locality, because they have not been sufficient to determine the accuracy of the cross section which has been submitted as one of the exhibits of the Board of Consulting Engineers to the Isthmian Canal Commission. Sand or gravel may even underlie the indurated clay into which borings have only been made a short distance. The same remarks apply, though in a lesser degree, to the series of dams and barrages holding back a head of 55 feet of water which it is proposed by the minority report to construct across the alluvial valley of the Rio Grande on the Pacific side of the canal.

From an engineering standpoint it is difficult to understand why a much better place for the construction of a dam to control and regulate the floods of the Chagres River is not at Gamboa where it is positively known that the primary rock foundation exists at no greater depth than sea level, and where it is possible to construct a masonry dam founded on solid rock at such a moderate depth and in accordance with established methods, that its integrity will no longer give rise to question.

If, therefore, it is decided to disregard the recommendations of the majority of the Board of Consulting Engineers, and to build a lock canal, then it is to be earnestly hoped only such form of lock canal will be authorized as will be admissible in connection with the construction of a dam at Gamboa rather than at Gatun.

While for certain purposes and under certain conditions earthen dams of large dimensions carefully formed are permissible, in this case it is not believed that such form of construction should be seriously considered when it is possible to secure a masonry structure founded on bed rock; particularly when the work under consideration must be supposed to possess permanency, and is being erected as a monument to the engineering skill of our modern civilization. There is no urgency that to my mind would justify the great risk of earth dams at Gatun or La Boca.

The next important matter to consider and decide is whether the canal shall be constructed under the present method of management or whether a contract for the work shall be made with a single contracting firm. In the latter case the specifications, of course, should be of the most broad and general nature, leaving all detail engineering plans to the engineers of the contractor in order that he may have the fullest latitude in immediately meeting and overcoming such local difficulties as from time to time are sure to arise.

After the contract is let, there would, of course, be no reason for retaining a cumbersome governmental organization in reference to the work, for there is no doubt that the Corps of Engineers of the United States Army could most efficiently supervise the contractor engaged upon the work. All the governmental functions, including policing and sanitation, could easily be performed under the control and direction of the governor of the Canal Zone. It can not be doubted that these two methods, if adopted, will give entirely satisfactory results.

The question will naturally arise in doing the work by contract whether there are any engineering organizations competent to enter into such a contract and to construct a work of this magnitude, and such a question must be answered in the affirmative. Several well-known organizations are quite capable and competent to handle a work of this character, and there is no good reason why they could not be induced to make bids for it, if the Congress in its wisdom decides such a method of management of this great work is preferable to that which has existed for the last two years.

In considering the question of additional time required for the construction of a sea-level canal the prompt and efficient utilization of the Panama Railroad is a matter of very great importance; for if the railroad is provided without unnecessary delay, with the very best modern facilities and equipment, including double tracks with abundance of sidings, shops, wharves, docks, and warehouses, and especially with the latest and most approved appliances for transferring cargoes from ships to cars and from cars to ships, very many of the advantages the world's commerce would derive from the completion of the canal will be at once afforded to it. Indeed, in many cases of goods shipped from American ports destined to the west coast of South America, it will probably be found advantageous for them to go in a single ship to Colon and being transferred by the railroad to Panama, be reshipped in smaller vessels plying from that port to the different ports to which different parts of the cargo may be consigned.

There are two suggestions which since they were first made have been subjected to very careful and thoughtful review because of criticisms which have been passed upon them. The first is that the railroad should be substituted for the canal while the canal is in process of construction. If so, it should be completely separated in management and control from any steamship line at either end, as the canal itself will be, and the charge for transfer from ship to ship should be a flat rate per ton regardless of classification except that light and bulky articles should be rated at a certain number of cubic feet to the ton. This rate should not be in excess of \$2 per ton, even with the present limited amount of business and as the business increases the rate should be reduced as the receipts justify.

Of course railroad managers who are accustomed to through bills of lading and through rates naturally desire that the railroad should be considered only a link in the shipments from one part of the world to another and that the same cumbersome classifications should prevail to which they have been accustomed in the movement of transcontinental traffic; but all such intermeddling with the transit across the Isthmus will disappear as if by magic the day the canal is opened, and there is therefore not the slightest reason why it should not disappear now, and the world's commerce be proffered substantially the same advantages of transit across the Isthmus that under precisely the same circumstances it will enjoy when the canal itself is placed in operation. Under such a system of administration there is no occasion whatever for the Panama Railroad maintaining a corporate existence with offices in New York, for the road can be far better controlled by a single competent railway manager on the Isthmus who would, of course, be under the direction and control of the general contractor in case the entire work is let under one contract.

This arrangement alone would save a large annual expenditure now apparently wasted on the Panama Railroad organization and do away with the complexities which that organization evidently produces, while at the same time the embarrassing questions arising from the alliance of steamship lines with the transit across the Isthmus could be separately considered on their merits, leaving the Government at liberty to retain a line of transports for its own use or rely upon the boats reaching the Isthmus both from the east and the west, as the Government's best interest might dictate; but, however, Government transports ought not to have the slightest possible advantage over any competing line of ships.

The method thus suggested of operating the railroad as a simple transfer line across the Isthmus and therefore as an immediate and practicable substitute for the canal with a low flat rate or charge, common to all the world's commerce, is a practicable and simple proposition which the committee will readily understand even if it declines to approve it. Above all, it would remove at once all cause for charges of favoritism for or discrimination against any particular interest or section of our country or even between ourselves and foreign nations, and thus enable the United States to redeem immediately the promise it has given that the great waterway which it is now constructing shall offer equal advantages to all the world and special privileges to none.

It must also be remembered that with such an excellent substitute for the canal while the canal is being constructed, any slight delay

in construction will be of far less importance than if the present organization of the railroad in New York is maintained and its mystifying relations with through bills of lading and through rates continued.

The expenditures which will be necessary to put the railroad in condition for this important work have already been partly made and will be required in any event for the road to furnish the proper facilities for the construction of the canal, so that no considerable additional expense is involved in the proposition.

As the primary reason for the construction of the canal has always been given as that of affording free and unobstructed facilities for all commerce across the Isthmus, it would really seem to be our imperative duty to provide these facilities at the earliest possible moment, when it can be done at a very moderate cost and in a simple manner.

It is, of course, a fundamental practice in railroad maintenance and operation that all physical changes and improvements of railroad properties should be so conducted as not to interfere with or delay the current traffic, and the same principle should apply to the construction of the canal. The railroad should be used as an instrumentality for this construction, but it should not be so used as to be injurious to the present facilities for commerce. On the contrary, it should be enlarged, improved, and amplified for increasing such facilities in the manner already indicated.

If the committee should think that undue importance is being attached to this question, it may be suggested that when such a large measure of benefit to the world's commerce can be secured by the expenditure of so small a sum and in so short a time and so great a percentage of benefit to be ultimately derived from the construction of the canal be at once secured, the importance of intelligent and immediate action by Congress can readily be understood and is earnestly urged upon it.

It must be remembered, and it is well known to persons engaged in large transportation problems, that it is much easier to retain and regulate the movement of traffic along lines to which it has been accustomed than it is to regain it after it has been once diverted to new routes, and the committee ought not to overlook the competition of the Tehuantepec route, which is now being provided with every kind of facility for handling traffic from ship to cars and from cars to ship across that Isthmus, and which it is suggested ought to be immediately provided at Panama, so that not only the commerce now passing across the Isthmus at Panama may be retained, but every possible inducement offered to the constantly increasing commerce of the world to avail itself of the facilities of this route rather than allow itself to be diverted to the Tehuantepec route on account of lack of facilities at Panama.

In conclusion, it must be admitted that the problems now confronting the Congress are of a very embarrassing character, but the intelligence and patriotism if its members will surely enable it to reach satisfactory conclusions. When such conclusions are reached both as to type of canal, whether at sea level or with locks, and as to the best method of constructing it, whether under the present organization or by letting the contract to outside parties under the supervision of the Corps of Engineers of the United States Army, it can not be doubted

that its decision will meet the expectations of the people in all respects and satisfy the just pride that their country has undertaken the task of conferring upon the world the benefits of this great enterprise.

Senator KITTREDGE. When you arrived at the Isthmus about the 1st of June, 1904, you found engineering parties there that had been operating on the work?

Mr. WALLACE. Yes, sir. The line from Colon to Gamboa was covered with engineering parties; and they were first charged with a verification of the French topographical maps, and second, with making borings.

Senator KITTREDGE. Where were the borings made?

Mr. WALLACE. There was one party at Colon, under Mr. List; a second at Gatun, under Mr. Nichols; a third at Bohio, under Mr. Dauchy, and a fourth at Gamboa, under Mr. Ely. These several parties were again subdivided into smaller parties.

Senator KITTREDGE. Please tell us the result of the explorations and borings at Gatun especially, and also at Bohio.

Mr. WALLACE. In order to explain that situation I will state that when I first took charge I understood that the type of the canal had been practically established by the Spooner Act, although some deviation might be permitted from it; and I had read a paper by Mr. Ward, published in the transactions of the American Society of Civil Engineers, which has been made part of your record, and I was very much taken with the idea of a dam at Gatun. The first idea I had, after I had spent a week or so on the Isthmus and looked the situation over generally, was that that was the proper locality for a dam, if a lock canal was constructed, provided suitable foundations could be secured for it.

Senator KITTREDGE. Why was that?

Mr. WALLACE. In figuring out the various elements of cost, it gave a lock canal with the proper depths and widths for less money than the estimates made under the Spooner plan. That was the principal reason.

After we had made a very few borings at Gatun, however, we struck one of the gorges that are shown on the cross section that appears in this exhibit before the committee and found this loose, permeable stratification extending down to about 179 or 180 feet below the sea level, containing sand and freely water bearing. That convinced me that there was no hope of finding any suitable foundations for a dam inside of any reasonable distance, so I put my parties temporarily on other parts of the work.

Senator KITTREDGE. I wish you would explain in detail just what was done in making borings at Gatun and what was developed. You may use maps if you wish.

Mr. WALLACE. I do not see your cross sections here. I do not remember how many borings were made, but we made quite a number. [After examining maps.] I am not able to tell from this particular plan what part of these borings were taken under my jurisdiction.

The CHAIRMAN. I think all the borings are noted on this plan. I think one of the engineers a few days ago stated that fact.

Senator KITTREDGE. Some were made after Mr. Wallace left.

The CHAIRMAN. I think a number were made after you left, Mr. Wallace.

Mr. WALLACE. The railroad is on this side of the gorge [indicating]—that is, this cross section is a cross section across the valley, looking north, and some of the first borings that were made went down in this gorge about 179 or 180 feet. We made others that only went down a part of that distance, but as soon as I discovered that there was a gorge there and that that depth was below the possibility of finding a foundation with which a permanent contact could be made, or to which the foundation of a dam could be taken, I temporarily abandoned those borings and went to work with the same party and tried to find the character of the material through here, with the idea of making a cut-off in order to shorten the canal. That was afterwards abandoned, however.

After the Commission came down in August they were not satisfied in regard to my theory of the continuity of this gorge, so then we went to work and kept at it continuously from that time and took these other borings which you see here in order to determine, if it was possible, that we could find some place where the indurated clay was not so deep as it was at the point first selected for examination.

In other words, to present the matter more clearly to you, the principle I was working on was this: That in a work of this magnitude it would not be safe to construct any dam to hold back the head of water that would be necessary at that point unless we could go to bed rock with our foundations. That we had decided on as a fundamental principle. When we found that the gorge existed there, I could see no use of further explorations.

Senator SIMMONS. Do you mean, Mr. Wallace, that it is necessary that the whole dam should rest upon a rock foundation?

Mr. WALLACE. No; not necessarily; but that you should be able at least to carry a curtain—

Senator SIMMONS. I mean for the safety of the dam. Do you mean that it is necessary that the whole of the dam should rest upon a rock foundation?

Mr. WALLACE. No; not the whole foundation. But it is necessary—that is, in my own opinion—that you should carry down a contact, or what we call a curtain wall, to the bed rock or to some impervious material.

Senator SIMMONS. The whole length of the dam?

Mr. WALLACE. The whole entire length of the dam.

Senator KITTREDGE. Why is that?

Mr. WALLACE. That is, from one side of the valley to the other. Why, it is so as to cut off the percolation of any water underneath your structure.

Senator SIMMONS. Is that what you call a core? What do you call that construction which you say must go down to the rock?

Mr. WALLACE. If it is an earth dam which you are building on a rock foundation you put in what we call a puddle core. That is, you put in a core in the center of that dam that is impervious to water.

Senator SIMMONS. Yes.

Mr. WALLACE. If you desired to build a large earth dam in an alluvial valley you would want to carry that core down to the bed rock or to some impervious material. We generally call it a curtain wall.

The CHAIRMAN. What you mean by the curtain is the wall made of concrete or stone, or whatever it may be, that comes next to the water, and then you fill it behind with earth? Is that it?

Mr. WALLACE. No; I mean a subterranean construction, a subsurface construction that will go clear to the bed rock.

Senator SIMMONS. What is that to be made of—masonry or timber?

Mr. WALLACE. That can be of timber if it is entirely submerged, or it can be of concrete, or it can be of any material, of whatever nature, that will be permanent and that will, without any question, shut off the percolation or flow of water underneath your dam.

Senator TALIAFERRO. That is, this curtain has no part whatever in the foundation except to prevent an underflow of water?

Mr. WALLACE. That is it, exactly. Now, there are two things to be guarded against—

Senator SIMMONS. This curtain goes down to the rock and extends the full length of the dam?

Mr. WALLACE. Yes. To make it clear to you, perhaps I can explain it a little differently.

The foundation for a dam has to perform two functions. One is to support the structure upon which it rests; the other is to prevent the water from running through underneath it.

Senator TALIAFERRO. And undermining it?

Mr. WALLACE. Either undermining it or else exhausting your reservoir of its water supply. You may have a flow of water underneath a dam that may drain the dam area and still may not ruin your structure as a dam. Have I made that clear to you?

Senator TALIAFERRO. Well, Mr. Wallace, if there was sufficient underflow to drain that dam, would it not in all probability impair the structure itself?

Mr. WALLACE. Possibly, but not necessarily so—that is, it might be possible to drain that water off absolutely and not be able to hold water in your dam and still not destroy the dam. But I would not take the chances on it if I were building the dam, though I can not say that it would not be possible to do it.

Senator SIMMONS. Is it proposed to construct any such curtain as you now speak of at Gamboa?

Mr. WALLACE. At Gamboa? No, sir; because at Gamboa the foundations themselves go to the bed rock. At Gamboa the primary rock foundation comes up—not the indurated clay, where you do not know what is underneath it, but the actual basaltic rock, of which the backbone of the continent itself is made. The deepest part at Gamboa is only at sea level. You only have to go 45 or 50 feet below the bed of the Chagres River to put the foundations of your dam right down on the bed rock, which is the backbone of the continent, and there is not any question at all about its integrity.

Senator SIMMONS. But after you get to bed rock at Gamboa you propose to construct an earth dam there with a masonry core, do you not?

Mr. WALLACE. No; not necessarily so. That was a detail that was left for subsequent determination.

Senator SIMMONS. Has anybody suggested anything there except an earth dam with a masonry core?

Mr. WALLACE. Yes, sir; I understand that the majority of the advisory board suggested a masonry dam, and a masonry dam is the thing, it seems to me, to construct there. The only reason that anyone ever suggested an earthen dam with a masonry core at Gamboa was from the fact that there was so much material to dispose out of Culebra that the material could be wasted at the site of that dam, and it would afford a place to put that material. As far as an engineering proposition is concerned, the proper thing to build there is a masonry dam.

The strength of a masonry dam founded on the bed rock is a matter of absolute mathematical determination. There is no guesswork about it. You can logically reason from the integrity of one masonry dam to another masonry dam, because you have elements there that are what we call determinate. But you can not so figure on an earthen dam. An earthen dam is absolutely a question of judgment and opinion. You can build an earthen dam in Massachusetts or New York or Colorado that will stand a head of 85 feet of water, and it is no criterion at all that the same dam at Gatun or in South Africa or at any other place would stand it, because the conditions are never the same. I mean the conditions under the surface. That is a matter of what you may call engineering judgment if you are in favor of an earth dam, and you may call it engineering guesswork if you are not.

Senator TALIAFERRO. Mr. Wallace, is not this earthen dam which is proposed by the minority at Gatun a dam of unusual strength?

Mr. WALLACE. Yes; it is; but as I said awhile ago, the unusual size that you make that dam may affect its integrity as a dam if there is no water flowing under it and if it is on a proper foundation. But there are two gorges that are underneath it. The deeper you go in those gorges the more water-bearing the material is. You find the same mass of loose gravel in the bottom of this gorge here that we found in the bottom of the gorge at Bohio, a really water-bearing stratification, practically a subterranean river. Now, when you add to that a pressure of some 38 pounds to the square inch, due to this 85 feet of head of water which is behind this dam bearing on this water to press it through that stratification, no engineer can tell you what is going to happen there.

Senator SIMMONS. Mr. Wallace, I want to see if I understand you. If I understand you, your position is that you can not guarantee the safety and integrity of an earth dam unless it is either built upon a rock foundation or unless there is a curtain going down from the surface, through the subsurface, to a rock foundation?

Mr. WALLACE. Yes, sir.

Senator SIMMONS. That is your position?

Mr. WALLACE. That is my position.

Senator SIMMONS. And that curtain must extend the full length of the dam?

Mr. WALLACE. The full length of the dam; yes, sir.

Senator SIMMONS. That is, not only across those gorges—down where those gorges are—but down where this indurated clay is?

Mr. WALLACE. It must go into that. If this indurated clay is all indurated clay, if you get a good foothold into this clay it is a proper foundation.

Senator TALIAFERRO. I want to ask you a question before you get away from that.

Mr. WALLACE. May I finish this matter—just a minute?

Senator TALIAFERRO. Yes, sir.

Mr. WALLACE. But no man can tell what is here. While it is possible and while it is probable that that indurated clay does extend to the bed rock, you have not any surety of it.

Senator SIMMONS. What I want to get from you is your opinion as to whether that curtain has to go down through that indurated clay until you get to bed rock, in order to guarantee the integrity of your dam.

Mr. WALLACE. No, sir; not if that indurated clay does go to bed rock; but I would find that out first, before I built a dam that this great work was dependent upon.

Senator SIMMONS. It must be demonstrated that the indurated clay goes to the bottom, or you must go through the indurated clay with your curtain down to the bed rock?

Mr. WALLACE. Yes, sir.

Senator TALIAFERRO. Now, Mr. Wallace, your answer to Senator Simmons seems to lay down the general proposition that an earth dam is not safe unless the foundations go to bed rock, or there is this curtain going to bed rock, for the purpose of cutting off an underflow of water.

Mr. WALLACE. Yes—that is, of course, unless the material may be of an impervious nature.

Senator TALIAFERRO. You did not put that qualification in your answer before. I was going to ask you if there were not a great many earth dams in this country which have been proved to be safe?

Mr. WALLACE. Yes; but if you had a thousand earth dams in this country that were proven to be safe, they would be no criterion that one at Gatun would, unless the conditions at Gatun coincided with the conditions of these that had been proved here.

Senator TALIAFERRO. Exactly so; but it would answer your general proposition that earth dams were unsafe?

Mr. WALLACE. Oh, no; I did not say that; I beg your pardon.

Senator TALIAFERRO. Well, that earth dams were not safe?

Mr. WALLACE. What I say is this, that I, of my own judgment, would not construct an earthen dam in an important work like this or with a great head of water behind it unless it was either founded on the rock or founded on some impervious material like indurated clay or unless it was protected by a curtain that was taken to the bed rock or to the indurated clay or to a surface through which the water would not flow.

Senator TALIAFERRO. I thought you meant that.

Mr. WALLACE. That is what I meant; yes.

Senator SIMMONS. What did you call these two formations here?

Mr. WALLACE. Down in the bottom here there is loose gravel.

Senator SIMMONS. But what did you call that [indicating]? We have been calling it a gulch.

Mr. WALLACE. I called it a geological gorge.

Senator SIMMONS. A gorge; yes. Now, Mr. Wallace, eliminating those two gorges altogether, supposing that they were not there, but that the formation where those gorges are was the same as this here [indicating]—in other words, that it was all indurated clay clear

across the line of this canal and that that indurated clay extended down 200 feet, the full length of the canal, do you give it as your opinion that you could not construct upon the surface of that indurated clay an earthen dam which would be absolutely safe?

Mr. WALLACE. No; I do not say that, because, as I said before, it would depend entirely on what was underneath it here.

Senator SIMMONS. I am asking you a hypothetical case.

Mr. WALLACE. Well, you have to take——

Senator SIMMONS. I can not get at your views unless you will allow me to ask you a hypothetical case.

Mr. WALLACE. I know, but engineers do not decide things on hypothetical cases. We decide the form of our structure on what we find underneath.

Senator SIMMONS. But it might be of some benefit to us to have your opinion on a hypothetical case. Of course I do not want it unless you are willing to give it.

Mr. WALLACE. Well, engineers are a good deal like some judges; they do not give their opinions on hypothetical cases.

Senator SIMMONS. I will ask you the question, and you can answer it or not, as you see fit. Eliminating the two gorges there, supposing that the material in those gorges was the same as that on either side of it, and that you have, therefore, for the full length of the dam, a foundation of indurated clay extending 200 feet below the surface. I ask you the question if, with those conditions, an earth dam there would not be practically secure and safe?

Mr. WALLACE. I would not put an earth dam in there in an important work of this character under the conditions you name unless I knew what was under that 200 feet of indurated clay, and unless I knew how far above and below the dam the indurated clay extended.

Senator SIMMONS. That is an answer to the question.

Mr. WALLACE. Yes, sir.

Senator ANKENY. Mr. Wallace, that indurated clay is never of uniform thickness, is it?

Mr. WALLACE. That is the reason, or that is one of the reasons, why I would not trust an important structure of that kind on it unless I knew what was underneath it.

I have had some experience with this kind of clay. I put in a bridge across the Missouri River quite a number of years ago for the Santa Fe Railroad Company. When I first took charge of that structure they had a line of borings across the valley. That line of borings struck an indurated clay that was a great deal heavier and harder than this indurated clay is; and the engineer that was sent to take those borings had reported that he had found a foundation substantial enough to construct the piers of that bridge on; and the bridge was planned with its caissons and its piers and everything to go to that depth.

When I arrived on the ground I commenced to examine the character of some of the rock borings and this clay, and I was not satisfied that he had gotten into a permanent stratification. So we went on through, and after going through some feet of this material we struck gravel and sand, and so forth, below. We found indurated clay in there that weighed 120 pounds to the cubic foot, and that was more of rock nature, really, than this indurated clay is here; and underneath it we found a mass of loose material, gravel and so on,

that we had to carry the piers of that bridge down through. Instead of going, as we expected, about 20 feet, we had to go 65 or 75 to 80 feet below the surface of the water, depending on stage of water.

Senator MORGAN. What place are you speaking of now?

Mr. WALLACE. I am speaking of a bridge foundation that I put at one time across the Missouri River at Sibley.

There is a section of country that Senator Kittredge is familiar with—in the Dakota country—I think up near the Jim River district, where the Missouri River comes down along the mountain slope of the continent at a much higher elevation than a large part of Dakota. In South Dakota you can put down almost anywhere a pipe of almost any size and get a flowing artesian well from it. I think the Senator will bear me out in that, at least to a degree.

Senator KITTREDGE. That is right.

Mr. WALLACE. That water evidently comes underneath from the Missouri River, and it flows through this sand and gravel and a fine silt—the silt is much finer than the material we found in this gorge here—and under several hundred feet of indurated clay. Am I correct in that?

Senator KITTREDGE. That is absolutely right.

Mr. WALLACE. And so much water flows through that stratification that there are times when there is more water in the Missouri River at Yankton than there is at Sioux City. Is not that correct, Senator?

Senator KITTREDGE. That is true.

Senator DRYDEN. Mr. Wallace, do the engineers who have examined the subject all concur with you in your opinion?

Mr. WALLACE. I do not know; I have not conferred with any of them.

Senator DRYDEN. You have not read their testimony?

Mr. WALLACE. I have read their testimony; yes, sir.

Senator DRYDEN. Have you observed in your readings whether they do or do not agree with you?

Mr. WALLACE. Some of them do and some of them do not—or, rather, to put it the other way, I agree with some of them and with some of them I do not agree.

Senator DRYDEN. It comes to the same result?

Mr. WALLACE. It comes to the same result; yes, sir.

Senator DRYDEN. There are a number of very eminent engineers who hold that that dam can be safely built across those gorges.

Mr. WALLACE. I presume there are; but I am simply speaking for myself.

Senator DRYDEN. Precisely.

Mr. WALLACE. And for myself, I would not do it.

Senator DRYDEN. Will you point out to me, if you please, while we are on this subject, on the map which shows the dam, just where the dam will cross these gorges?

Mr. WALLACE. I am not familiar with these maps; but one of the gorges in the map is here, and the other one is here—that is, this hill, in which they evidently have designed the sluice gates—the spillway—is in between these two gorges.

Senator DRYDEN. About what is the length of the mouth of those gorges—the top of the gorges?

Mr. WALLACE. That one is about 1,800 or 2,000 feet across, and this one is about—a little over a thousand—about a thousand.

Senator DRYDEN. Yes; thank you. I did not quite get your point when you said that certain conditions might make a dam safe in Massachusetts but would not apply on the Isthmus.

Mr. WALLACE. Yes, sir.

Senator DRYDEN. I did not quite get that point.

Mr. WALLACE. What I meant by that was that there is no similarity in respect to the foundations.

Senator DRYDEN. Yes.

Mr. WALLACE. As far as the constructing of the dam itself is concerned, after your foundations are secure, if you construct a dam with reasonable care, with the same kind of material, and see that the layers are all properly put in, you can construct your dam itself as well in one place as you can in another. But what I meant to say was that because an earth dam had a proper foundation or was on a material that was not permeable by water in Massachusetts, it is no sign, if you construct a dam on the Isthmus, that you would find the same conditions occurring underneath the surface. You understand what I mean?

Senator DRYDEN. Yes.

Mr. WALLACE. There are two elements in the earth dam proposition. One is the structure which we intend to make, the elements of which can be determined. The other is that part of the structure which nature has made and which is not the same in one locality as it is in another. You might not find in the whole wide world another condition exactly similar to this.

That is the point I was trying to make—that the conditions underneath the dam in Massachusetts were no criterion as to what the conditions would be underneath the dam at Gatun, unless they were found to be identical.

Senator DRYDEN. The depth of this dam is about a half a mile, as I understand, from the head to the end of it?

Mr. WALLACE. Well, yes. Here it is, underneath here, on this lower map.

Senator DRYDEN. I think it has been testified that it is about a half a mile.

Mr. WALLACE. Yes, sir.

Senator DRYDEN. Is not the fact of that enormous depth, which I understand to be entirely unprecedented, far beyond anything that has ever been constructed before, a very important factor as furnishing a resisting force for the seepage of this water?

Mr. WALLACE. No, sir.

Senator DRYDEN. You hold it would make no difference whether that dam is of such a depth as that or smaller?

Mr. WALLACE. Except this: Except so far as it would make a longer area between where the water might reach this substratification and where the water might come from, and increase the friction due to the flow of water through the material. If that material compressed this gravel down in here it would be another proposition. But experience has shown us—at least my experience has shown me—that the weight of that dam on top of this material would have no effect whatever on the flow of water through this gorge below here.

It may compress some of the upper stratifications in which there is vegetation or alluvial matter.

Senator MORGAN. By "the gorge below here" you mean the deepest gorge?

Mr. WALLACE. Yes; the two deep gorges; the two gorges at Gatun.

Senator MORGAN. And this is the deepest one?

Mr. WALLACE. Yes. The same thing would apply to the other one.

Senator MORGAN. Yes; I merely want to get the record right.

Mr. WALLACE. The compression would take place in the upper stratifications that are made up of vegetable matter or of alluvial matter, and the effect of those compressions will be an inequality in the settlement of your dam, and the probabilities of cracks and breaks in it in line with the edges of these gorges. But the pressure of that dam will have no effect whatever as to the flow of water through this water-bearing stratification in the bottom of the gorges.

Senator DRYDEN. Would not the fine matter which washes down in the silt fill up the little, infinitesimal crevices in this alluvial matter, so as to constantly make it more water-tight?

Mr. WALLACE. Under some conditions it might; under other conditions, no.

That, in fact, is such an insignificant proposition that it is not strong enough to be an element upon which to base a decision of this kind. It has not done it so far. You find the deeper you go here the coarser this material is and the more water runs through it.

If a dam is built here, the possibilities are, you will find, that silt may never come in against the exact dam itself. It might not for ages; it might not for hundreds of years, because it will come in from the side creeks and will be deposited wherever the water is still, and there will be very little that may come down against this dam in the water that is against it, because the water will be still for quite a distance above it. You might, where that material would settle on sand of a certain character. If it did settle, it would have a tendency to make it more impermeable than it was before. But I do not think we could trust in this dam on checking off that flow of water by that means at all. I think the risk would be too great.

Senator DRYDEN. Does the great extent of this dammed-up water add anything to the weight or to the influence of this head of water seeking an outlet through this seepage?

Mr. WALLACE. The weight of the water is due to its head and not to its volume, except this, that over the entire bottom of this dam there is a downward pressure of, say, 38 or 40 pounds per square inch. That pressure is also horizontal, applied to this water flowing through the dam. That pressure exists over all this entire area, so that if half a mile away from here there was another vein of gravel underneath the indurated clay, and the inlet to that might be a mile above your dam or 2 miles, that weight would be there transmitted on that water to push it through under that clay, and you might find springs develop and waterways develop below your dam a great ways off even from these gorges, if there was any continuous strata that was water bearing that was connected with any of this water above the dam and any of this area in the swamps below. Springs might come up miles away from it, due to that cause, because that pressure is underneath the entire surface of your dam, no mat-

ter how many miles it may be in extent, due to the height of the water above the point upon which the water rests.

Senator DRYDEN. If it should be necessary in building across these gorges to make a provision such as you have referred to—running down these aprons until you strike a strong, sufficient foundation—is that impracticable from an engineering standpoint?

Mr. WALLACE. Well, in this particular case I would not undertake to do it—that is, if it was a work that I was doing for clients. No engineer would like to say that anything in an engineering way is impracticable. It is possible to close that off by a great many means, but you can not get at it to see it, and a great deal of it would have to be left to the discretion and judgment of the men that did it on the ground; and whether it could be done or not, or how long it would take or how effective it would be, are very uncertain quantities.

Senator ANKENY. I infer from that that the weight of that dam would increase the percolation. Is that right?

Mr. WALLACE. No, sir; I do not mean to say that the weight of the dam will increase the percolation.

Senator ANKENY. The water above would increase it?

Mr. WALLACE. The water behind it, in the lake that would be created by the dam, would increase the percolation, due to the head of the water.

Senator ANKENY. That is what all this means?

Mr. WALLACE. Yes, sir; that is what all this means. What I meant to say, further, is that, in my judgment, it would be a very unsafe thing to predicate this important work on a structure built at that point.

Senator ANKENY. Upon a plan open to these objections?

Mr. WALLACE. Yes, sir.

Senator DRYDEN. Have you found any other weak point in that scheme for a dam except these two gorges?

Mr. WALLACE. I do not like the lock proposition that goes with it.

Senator SIMMONS. You said you made some borings after you went down there?

Mr. WALLACE. Yes, sir.

Senator SIMMONS. What was the greatest depth of your borings?

Mr. WALLACE. I think some of them were 200 feet. As I said before you came in the room, we abandoned the borings at one time, after we had commenced them and gotten down about 179 or 180 feet. Afterwards I went back again and explored that valley and made a great many other borings all through there.

Senator SIMMONS. Did you get through the indurated clay?

Mr. WALLACE. No, sir; I did not go down through that. All I tried to do was to develop these gorges, because when I found one depth that was below what I considered a practicable depth to take a foundation to that, to my mind, settled that locality.

Senator SIMMONS. Were your borings altogether in the gorges?

Mr. WALLACE. No, sir. They were all over; some of them down here [indicating on map].

Senator SIMMONS. How deep did you go in the gorges?

Mr. WALLACE. My recollection is that before I left the deepest I found was about 200 feet.

Senator SIMMONS. How deep did you go through the indurated clay?

Mr. WALLACE. Whenever we struck the indurated clay and went into it 10 or 15 feet we stopped.

Senator SIMMONS. You did not prosecute your borings to the extent of finding what was the character of the material below the strata of indurated clay?

Mr. WALLACE. No, sir; because, to my mind, that was entirely unnecessary. Having found that there were deep gorges there [indicating on map], it looked like a waste of money to undertake any further experiments there. If that location had been selected for a dam and I had been instructed to build a dam on that location, I would not have stopped until I had gone clear through and into the rock and gotten through several stratifications, so that I could have found the geological sequence of the various stratifications.

Senator SIMMONS. Your 200 feet borings down those gulches there did not reach strata of rock or other hard substance?

Mr. WALLACE. No, sir.

Senator SIMMONS. Why did you stop at 200 feet? Why did you not go deeper down?

Mr. WALLACE. The reason was this: We were crowded for men, and we were crowded for material, and we had other questions that were of great importance that we must solve, and we needed every man and every machine that we had. As I abandoned that in my mind as a place for a dam when I got down that 200 feet and did not find any suitable material for a foundation, it was, to my mind, simply a waste of time to continue.

Senator SIMMONS. When you got down 200 feet and did not find any solid substance you reached the conclusion satisfactory to yourself that that was not a proper place for a dam?

Mr. WALLACE. Yes, sir.

Senator SIMMONS. When was it that you reached that conclusion?

Mr. WALLACE. That was, I think, in August, 1904.

Senator SIMMONS. Since that time you have been opposing this proposition to put a dam there?

Mr. WALLACE. No, sir. I went back again, at the request of the old Commission, and we took additional borings, because their theory was that at some place else across that valley we might find a continuous ridge of this indurated clay upon which this dam might be built, and it was on that chance that we continued our investigation.

Senator SIMMONS. Did you make borings elsewhere in the valley with a view to ascertaining whether conditions were different there?

Mr. WALLACE. Yes. That is the reason all these black borings were taken from here away above the dam [indicating on map].

Senator MORGAN. Did you ever find that continuous ridge of impervious material?

Mr. WALLACE. No, sir; we did not.

While these borings were going on we had been boring at Bohio and had gotten down 167 feet at Bohio, in a gorge there. We had followed that gorge clear up to Gamboa, and we found it ran out at Gamboa and the rock came up to sea level. My natural supposition was that, going down to 200 feet here [indicating on map] and 167 feet at Bohio and finding that all the way up the valley the rock pitched and would be found at some very great depth here [indicating on map], but certainly under 250 or 300 feet at this point [indicating on map], that we certainly would not find that it was at a

higher elevation lower down the gorge than we found at Bohio, because the evidence all seems to show that this gorge had been formed by the flow of water, and that water must, of course, have been running downhill toward the sea.

Senator SIMMONS. It was in August, 1904, that you completed these borings in the gulch?

Mr. WALLACE. No, sir; it was August, 1904, that I found out that one of these gorges existed; but we took a great many additional borings after that.

Senator SIMMONS. When was it that you completed the borings as to those gorges and made up your mind that that site would not do?

Mr. WALLACE. That was in August, 1904.

Senator SIMMONS. That is what I understood you to say.

Mr. WALLACE. That was with this reservation, that if we did find—

Senator SIMMONS. I am talking about this site.

Mr. WALLACE. But I mean to say this: That we did not abandon that entirely, but it was with the reservation, of course, that if we did find a barrier of this indurated clay extending clear across the valley, and then found that that was down to the bed rock, and that there was no water-bearing strata under it, we might go back to that and put a dam there.

Senator SIMMONS. But you did find upon this identical situs these gorges and you did bore down 200 feet?

Mr. WALLACE. Yes, sir.

Senator SIMMONS. And you came to the conclusion, as a result of those borings, that this precise place would not do?

Mr. WALLACE. That is correct.

Senator SIMMONS. What I want to ask you is this: Is there any report of your to the Commission or any written statement of yours to the Commission, made at that time, of the conclusion you had reached in this regard?

Mr. WALLACE. Yes, sir; that is contained in letters addressed to Admiral Walker, the chairman of the Commission, and it was also covered by verbal reports that I made to the Commission when they were on the Isthmus in that month.

Senator SIMMONS. You wrote letters to the chairman of the Commission?

Mr. WALLACE. Yes, sir.

Senator SIMMONS. Giving your opinion as you have stated it to be here?

Mr. WALLACE. Yes, sir.

Senator SIMMONS. In August, or about August, 1904?

Mr. WALLACE. Yes, sir; 1904.

Senator SIMMONS. After that opinion was given by you did you make any more borings at this particular place or in the line of the dam at that particular place?

Mr. WALLACE. In the general vicinity. That matter was referred to Mr. Nichols, and we let him use his judgment as to where he should make his borings after that time. In other words, the consideration of the whole problem of physical research from Mindi clear up to Bohio was left in the hands of Mr. Nichols to investigate as he saw fit.

Senator SIMMONS. As a matter of fact, did Mr. Nichols continue his borings along the line of this Gatun dam?

Mr. WALLACE. In that general vicinity; yes.

Senator SIMMONS. I am not speaking of the general vicinity. Did he make them along the line of this Gatun dam?

Mr. WALLACE. I could not tell you from memory. At that time I used to get monthly borings that he made. It has been almost a year now since I have paid any attention to it, and the data is not in my hands, so that I could not answer your question definitely.

Senator SIMMONS. Is there anything in the reports or upon the maps that indicate whether any borings were afterwards made right along the site?

Mr. WALLACE. Yes, sir. Mr. Nichols made weekly and monthly reports of everything that he did, and the data as to exactly what he found and did are on file in the chief engineer's office, at Panama.

Senator SIMMONS. The data will show the exact location of the borings?

Mr. WALLACE. Yes, sir.

Senator TALIAFERRO. You do not identify the borings that were conducted under your direction?

Mr. WALLACE. No, sir; if I had my reports here I could. I have reports of these borings. This map is made to a different scale and the borings are differently numbered from what they were on my reports, and I could not identify the exact borings.

Senator MORGAN. Mr. Chairman, I ask that the chairman call for those reports, or copies of them.

Senator SIMMONS. Yes; we would like to have them.

The CHAIRMAN. Do I understand that they are here or at Panama, Mr. Wallace?

Mr. WALLACE. Those are at Panama. It may be possible that you will find them in a consolidated annual report. Just before I left the Isthmus I commenced to shape up my matters for an annual report. All the engineers under me received instructions as to how to prepare their matter and what matter I wanted. Mr. Nichols and these other engineers that had charge of borings had everything tabulated up to the 1st of July, 1905. It is barely possible that copies of that matter may be here in the office of the Commission. I think very likely they may be.

The CHAIRMAN. There may be copies here of this work that was done at Panama?

Mr. WALLACE. Yes, sir; there should be.

Senator TALIAFERRO. Could you not look over the annual report and ascertain whether this information was embraced in it?

Mr. WALLACE. Why, it would not be in the annual report. It would be in the reports of Mr. Dauchey, and Mr. List, and Mr. Maltby, and Mr. Ely, and Mr. Nichols, and these other assistant engineers. It would be in their reports to the chief engineer.

Senator MORGAN. Which you transmitted to the Commission?

Mr. WALLACE. No, sir; I did not get a chance to do that.

Senator SIMMONS. I would like to have inserted in the record the letters that Mr. Wallace referred to a few moments ago, which he says he wrote to the chairman of the Commission, giving it as his conclusion, as a result of his borings through these gorges there, that this place at Gatun, which has been selected by the minority as a

proper place for the construction of a dam, was not an available place.

Senator KITTREDGE. I think that is a proper request.

Senator MORGAN. I thought those letters had been called for on my suggestion.

Senator SIMMONS. You spoke of reports.

Senator MORGAN. I call them reports.

The CHAIRMAN. These letters will be here, Mr. Wallace?

Mr. WALLACE. They should be here.

The CHAIRMAN. The request for the letters will be made, Senator.

Senator TALIAFERRO. That was in the form of a report, was it?

Mr. WALLACE. No, sir; it was in the form of my regular letters right along.

The CHAIRMAN. Those letters would be along in the year 1904?

Mr. WALLACE. Yes, sir; addressed to the chairman of the Commission.

Senator SIMMONS. In August or September of that year.

Mr. WALLACE. My recollection is that you will find that matter also treated in a report that I made to the Commission under date of February 1, 1905. Along about in the winter the Commission sent down an engineering committee consisting of Professor Burr, Mr. Parsons, and General Davis, and they called upon me for a report on the Isthmus, so that I made them a short, condensed report, and I think it was on February 1, 1905; and in that report I described the work that had been done up to date, and gave the conclusions that I had arrived at up to that date. That is very short, and it wound things up to that period.

Senator MORGAN. Probably that would cover the whole matter.

Mr. WALLACE. That might cover what you want.

Senator SIMMONS. We would like to have that, and the other, too.

The CHAIRMAN. I assume that all borings, or copies of them, are in the office here?

Mr. WALLACE. They should be; yes.

On the Isthmus the borings, cores of all the material, were very carefully preserved, showing the number of the hole and the character of material at each foot below the surface all the way down, so that you could examine the actual material. That is the way we got our information about these things. I used to visit these assistant engineers and go through these samples. I would say, for instance, "What did you find down here in hole No. 1 at 50 feet, or at 125 feet below the surface?" And I would follow that stuff down and see it, and take it in my hands, and consequently I knew.

Senator SIMMONS. Did you find any water currents down in that gulch?

Mr. WALLACE. Yes, sir.

Senator SIMMONS. How deep were those?

Mr. WALLACE. The deeper down we went the more freely the water seemed to flow, although there were occasional thin layers of clay.

Senator SIMMONS. What was the depth of the first current you found?

Mr. WALLACE. I do not remember.

Senator TALIAFERRO. It is on that blueprint there.

Mr. WALLACE. I do not like to speak from this blueprint, because I do not know whether this was made from my borings or from subse-

quent ones. The general conclusion is all that concerns you, I suppose, and the effect that it had on my views was that it was not such a location for the dam——

Senator SIMMONS. But every fact about this concerns us, in making up our opinion. We are glad to have your suggestions, but we have to form an opinion about it ourselves, and every fact about it is material.

Mr. WALLACE. Then I would go down there, if I were you, and look at the samples of those borings.

Senator MORGAN. Did you have a paper similar to that blueprint, or some other drawing showing the borings made by you and reported by you to the Commission?

Mr. WALLACE. Yes, sir; it came in on the monthly reports. They were sections. For instance, if they took these particular borings in a month [indicating on profile], or those there [indicating], they would send sections like that; but not a completed section like this blueprint.

Senator MORGAN. Your borings are in charge of the Commission?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And that map, or those maps?

Mr. WALLACE. Yes, sir.

Senator MORGAN. We want those, Mr. Chairman.

Senator KITTREDGE. Is it possible, Mr. Wallace, to secure a rock foundation in the gorges you have described?

Mr. WALLACE. I do not think so.

Senator KITTREDGE. The depth is too great?

Mr. WALLACE. Yes, sir; the depth is too great.

Senator KITTREDGE. Is it possible to put in a curtain wall of the character you have mentioned, in such manner as that you can certainly say that all the water will be cut off?

Mr. WALLACE. Well, that word "possible" makes it a hard question to answer, Senator.

Senator KITTREDGE. Is it probable?

Mr. WALLACE. It is possible, but I would not consider it reasonably practicable. To put it in a little different way, if it was the only location that there was anywhere for a dam, and we could not build the Panama Canal unless we put the dam at that particular point, I should first try, if I had anything to do with the work, or in the way of advising any engineer that had anything to do with it, to attempt to shut these gorges off in some way. It would be a very expensive, tedious proposition, but it might be possible to do it. I would not like to say that it would be impossible. I would say, most positively, that I would not attempt it for a moment if there was any other locality where I could build a dam where I would not have these difficulties, and which would still enable me to build the Panama Canal.

Senator MORGAN. You would not recommend it to a client as a safe operation for investment?

Mr. WALLACE. I certainly would not.

Senator KITTREDGE. Is it beyond tried experience?

Mr. WALLACE. It is beyond anything that has been done in an engineering way.

Senator MORGAN. I want to get a better idea than I have of the topography of this country between Bohio and the site of the Gatun

dam, as put down on the report of the minority. What is about the distance between the borings at Gatun that you made down to 157 feet and—how many feet was it?

Mr. WALLACE. To a maximum depth of 200 feet while I was there.

Senator MORGAN. At Bohio?

Mr. WALLACE. Oh; at Bohio? One hundred and sixty-seven feet.

Senator MORGAN. State the distance from that line to Gatun, just in miles, if you please.

Mr. WALLACE. It is practically about 10 miles.

Senator MORGAN. At Bohio you bored across and developed a deep gulch?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And you got to real rock, solid rock?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Not this indurated clay?

Mr. WALLACE. No, sir.

Senator MORGAN. And there you found bowlders washed in?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And lodged in this gulch?

Mr. WALLACE. Yes, sir.

Senator MORGAN. In your borings between that and Gatun, did you develop the continuity or a prolongation of this gulch?

Mr. WALLACE. Not from Bohio down to Gatun; but we took borings from Gatun up the river some distance.

Senator MORGAN. I know that; but down below?

Mr. WALLACE. We did not go below Bohio, because there was no site between Bohio and Gatun where we considered the conditions—that is, the topography of the country above the surface—as suitable for a dam.

Senator MORGAN. This blueprint that you have been speaking from this morning indicates that there are two deep gulches there; one, the narrower one, is how many feet deep?

Mr. WALLACE. It is 250 feet deep.

Senator MORGAN. And the wider one is how deep?

Mr. WALLACE. About 200 feet.

Senator TALIAFERRO. That deep gulch is 258 feet deep, is it not?

Mr. WALLACE. I was just speaking approximately from what this map said. I was not pretending to give exact figures. It is shown here on this map as being 260 feet.

Senator MORGAN. Yes.

Mr. WALLACE. Yes. I had always understood that it was called 250 feet in depth. There is one boring that goes down 10 feet below, here [indicating on map].

Senator TALIAFERRO. The borings there, I understood, have gone down 258 feet.

Mr. WALLACE. I see one figure on here marked 260.

Senator MORGAN. I want to get you to state, if you please, whether the Chagres River in its present location runs over or above either of these borings.

Mr. WALLACE. Yes, sir; that is, in a way. There is a diversion channel over this deepest boring which was made by the French. The Chagres River is not over the deepest boring, but both the diversion and the river itself are inside of the limits of these gorges, only above them.

Senator MORGAN. Does the Chagres River separate into two channels there, so as to make an island between?

Mr. WALLACE. In connection with this diversion channel it does. The French made a diversion there that I presume followed the lines of what formerly had been a river. I think there is no doubt but what at some ancient period there were two channels, one in each of these beds.

Senator MORGAN. And there was an island that appeared on the topographic surface?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And through one of those channels the French dug a diversion channel?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Have you any information as to the purpose for which they dug that channel?

Mr. WALLACE. Well, that was to keep the side water that came in from flowing into the canal. The general theory of diversion channels was this: That on each side of the canal itself channels would be cut from one depression to another, or one part of the river bed to another, so that it would intercept the streams that came down on the hills on each side, carrying that water out to sea, to keep it from running into the canal proper.

Senator MORGAN. And the diversion that you speak of was a part of that scheme for keeping the water out of the canal?

Mr. WALLACE. Yes, sir.

Senator MORGAN. In the borings, as indicated on this blueprint, the augers were put down through that diversion and also through the main channel of the river?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And this insular mass was between the two?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And that insular mass was composed of indurated clay?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And the gulches between had washed out and been filled up with débris from some more elevated place?

Mr. WALLACE. Yes, sir.

Senator MORGAN. The insulated mass—I mean the general body of the material lying from 40 to 50 feet beneath the surface—was this indurated clay?

Mr. WALLACE. Yes. I mean this indurated clay was on the sides, but there was no continuity across these gorges of indurated clay.

Senator MORGAN. I understand. I suppose—of course it is a supposition with you and everybody else—that that indurated clay had been deposited there in some far distant period of the past and that those gorges had washed out?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And had left an island between the two, which is demarked on the surface to-day by these two branches of the Chagres River which run around it?

Mr. WALLACE. That is the natural supposition.

Senator MORGAN. Did they ever, in the borings that they made as shown on this blueprint, reach solid rock beneath this indurated clay?

Mr. WALLACE. No, sir.

Senator MORGAN. At the deepest of those borings, or at some of them, did they reach through the indurated clay and into a softer mass of material?

Mr. WALLACE. No. The borings only went down into the indurated clay far enough to be sure they were in that material. In some of those places there were other kinds of clay on top of the indurated clay, and in order to determine that the clay was indurated the borings went some distance into it in some places; but there was no attempt ever made to go through it.

Senator MORGAN. There is nothing below the indurated clay of softer material?

Mr. WALLACE. The borings did not go far enough to show what there was below the indurated clay.

Senator MORGAN. Not even in that deepest part?

Mr. WALLACE. No, sir.

Senator MORGAN. At the lowest depth of that deepest fissure there into which borings were made you still found the indurated clay?

Mr. WALLACE. Yes, sir.

Senator MORGAN. This blueprint shows that tubes were driven down, like the tubes of an artesian well, for the purpose of determining whether water would flow through them as the borings descended; and it was found that at this heavy line which is here, which I believe indicates sea level or just below that, and at the same elevation almost in each of these borings the water poured out of the tubes. Would that indicate that that water was at a level between those points where it poured out of the tubes, and that that level was maintained either through this indurated clay in this insular place or went around it?

Mr. WALLACE. It would indicate that that water was connected with other water at a higher elevation, and that it was freely flowing through the material that the water came through.

Senator MORGAN. That was taken, I suppose, as satisfactory evidence that in some way the mass of water that was flowing out of the tubes in each of these gorges was a continuous body?

Mr. WALLACE. Yes, sir; and a continuous stream, and that the material in the part of the gorge to which that tube ran was what we call freely water-bearing.

Senator MORGAN. Have you any idea, or have you any reason to suppose or to believe that the water which rose at equal heights in these tubes in these respective deep gorges ran through the body of indurated clay or ran around it?

Mr. WALLACE. From the data that has been presented I would judge that the water followed these gorges, and, if the clay was indurated, that the water was confined to the gorges.

Senator MORGAN. That it was confined to the gorges and ran around this insular place that had been washed out on both sides?

Mr. WALLACE. Yes, sir.

Senator MORGAN. In building the dam upon the top of that material, say, 30 or 40 feet below the surface of the earth, to span each of these gorges, that dam would rest upon material more or less permeable and more or less soft, including wood or other stuff. In order to make that dam secure, would it be necessary to shut out or close

out permanently this conduit that supplied water from a common source and that ran either through or around this insular position?

Mr. WALLACE. Yes; it would be necessary to cut it off.

Senator MORGAN. By what means could that be cut off? By what known engineering means could it be cut off?

Mr. WALLACE. That same question practically was asked me a while ago, Senator, only not in that particular form, and I said then that it might be possible to cut it off, but I would not undertake to do it if I was an engineer of that work if I could find any place else to build my dam.

Senator MORGAN. Is there any certain known engineering formula or proceeding or process by which that water could be cut off other than by taking out the material down to and below it and starting the foundations of your dam below the point where this water flowed?

Mr. WALLACE. The way you have suggested would be the most thorough way to do it; but I have never known it to be done at such great depths as that.

Senator MORGAN. Very good.

Mr. WALLACE. About 100 to 110 feet below the surface of the water is about the maximum depth to which you can go down and clean off material and build up and about it. Of course there are processes by which you could drive sheet piling at some greater distance, or inject cement, or use the freezing process, and all that sort of business; but the depths of that, the success and utility of it, would be, to say the least, doubtful.

Senator MORGAN. If I understand the project of the minority of the consulting board of engineers, they propose first of all, in constructing this dam, to go down and take off the softer material that lies on the surface of the earth until they get down to about the general level of the indurated clay; then they propose the construction of an earth dam upon that basis to span both of these gorges. Is that a correct assumption?

Mr. WALLACE. That is the way I understand it.

Senator MORGAN. A dam constructed in that way, and leaving the material as it is in these two deep gorges, would rest upon a body of earth or body of material through which and below which there is now an actual flow of water. I want to know if a dam constructed in that way and at the levels that I have been describing can be made to stop that flow of water; can it be done otherwise than merely through the pressure of the weight of the superstructure of the dam upon the underlying material?

Mr. WALLACE. In my opinion the weight of the superstructure of the dam would not shut it off.

Senator MORGAN. It would not?

Mr. WALLACE. No, sir.

Senator MORGAN. Is there any other way to do it, except through the weight of the superstructure?

Mr. WALLACE. In that form of construction, no; and, as outlined in their plan, no.

Senator MORGAN. That is the plan that is recommended for the dam?

Mr. WALLACE. As I understand it; yes, sir.

Senator MORGAN. If the superstructure of the dam, the earth part that is filled in and superimposed upon this foundation there that I

have been trying to describe, by its weight and pressure closes up ultimately this water flow, would that not be done at the expense of irregular settling in the dam?

Mr. WALLACE. Yes; but it would not close up the water flow.

Senator MORGAN. I know you think it would not. I am assuming the possibility that it should do it.

Mr. WALLACE. It is rather a hard presumption.

Senator MORGAN. Would it not be done at the expense of, I will say, the integrity of the dam above, so that it would sink?

Mr. WALLACE. Yes; but, Senator, in my view, you will have two things that will happen there.

Senator MORGAN. What are they?

Mr. WALLACE. The first thing is negative, and that is, that in my experience I have never yet seen weight that is superimposed on water-bearing stratification of gravel that was fully saturated ever have any tendency to shut off the water, because you can not compress it. There are voids there, and the gravel and the sand and the stone make arches.

Senator MORGAN. The water itself is incompressible?

Mr. WALLACE. And the water itself is incompressible, of course. Near the surface where you have any vegetable deposits you will have settlement, and you will have compression. But those are not the strata through which the water flows, but those are the ones that will compress, and the result will be a tendency for that dam to crack on lines perpendicular with the edges of these gorges.

Senator MORGAN. To have fissures?

Mr. WALLACE. Yes, sir; and those fissures will have a tendency to let the water through them, and will have a tendency toward weakening the structure.

Senator MORGAN. If a fissure should form in this dam, perpendicular, I will say, to either of these gorges, or between their borders, between their walls, would not such a fissure as that endanger the sweeping out of the entire structure from end to end when the water was at a height of 80 or 85 feet?

Mr. WALLACE. It would have a tendency to make a break in the dam where these fissures occur.

Senator MORGAN. When a fissure occurs under a head of 80 or 85 feet of water—

Mr. WALLACE. It is generally disastrous.

Senator MORGAN. Disastrous?

Mr. WALLACE. Yes.

Senator MORGAN. Can it be otherwise?

Mr. WALLACE. Of course I would not like to say that that thing would actually occur at that point.

Senator MORGAN. No; we do not any of us attempt to say what will occur in the future.

Mr. WALLACE. But I would not take the chances on it.

Senator MORGAN. That, then, is one of your material objections to the construction of this dam, if I understand you?

Mr. WALLACE. Yes.

Senator TALIAFERRO. You favor the sea-level canal, I see by your article?

Mr. WALLACE. Yes, sir.

Senator TALIAFERRO. Do you favor the plan as laid down by the Board of Consulting Engineers?

Mr. WALLACE. Well, in general—that is, as far as the main canal is concerned, its alignment, and its general size, etc. The only two points in their report that I would be disposed to question—not to criticise, but to question until I could give it more deliberate consideration than I have been able to with the other duties that I have had to perform—has been whether or not it would be advisable to go through between Ancon and Sosa on the Panama side and construct that new channel or simply to enlarge the present canal channel up La Boca way.

Also, I am not thoroughly satisfied from the examination I have made of it as to whether these longitudinal breakwaters are better than it would be to put this breakwater across here, according to the old plan. I have my doubts about that. But that is a detail, compared to some of these other questions, of course.

Senator KITTREDGE. Is the change of the channel at the La Boca end a matter of detail as compared with the other matters?

Mr. WALLACE. Yes, sir; the present channel is around this way [indicating on map]. Of course this makes a straighter shoot out to sea, and so is a little better, that is true; but there is a great deal of rock through here [indicating], and evidently one idea of their coming down here was to get the tidal lock in here [indicating], instead of up here at Miraflores where it was originally planned.

The CHAIRMAN. What do you think of the width of the sea-level canal for business for the future?

Mr. WALLACE. It is so much larger than anything that exists, than the Suez or any other maritime canal of the world to-day, that it seems to me that it would be ample for the start. Up to San Pablo, and possibly to Obispo, it would cost comparatively little to give you an extra 100 feet in width, if you ever wanted it, in these earth sections.

Senator TALIAFERRO. How about the Pacific side as to extra width?

Mr. WALLACE. Up to San Pablo I would say, in round numbers, that you could get an additional 100 feet in width for not to exceed \$10,000,000, if you wanted it. That is on the sea-level proposition.

The CHAIRMAN. From that to the Caribbean Sea?

Mr. WALLACE. Yes, sir. And it would be possible to widen the section with moderate expense from there up to Obispo. But this section, of course, from Obispo through to Pedro Miguel, would be common to all your various plans, no matter what their height, on account of the heights of the ridges. From Miraflores down to the sea, two or three million dollars ought to give you your additional 100 feet. There are some lumps of basalt that come up in here [indicating on map] where you might have to make some rock excavation under water, but I do not think they are material. So that you would have very little difficulty in getting any width that you wanted up to Miraflores.

Senator TALIAFERRO. From Panama Bay to Miraflores, what do you estimate that it would cost for a width of 500 feet?

Mr. WALLACE. I could not tell you unless I went into the figures and examined them carefully. It would not be prohibitive at all. It would be very moderate.

Senator TALIAFERRO. With a 500-foot canal from the Pacific to Miraflores, would it be necessary to use the tidal lock?

Mr. WALLACE. No, sir.

Senator MORGAN. You say it would not?

Mr. WALLACE. No, sir. The channel now is very narrow up here to La Boca. This channel you see here [indicating on map], although it is out in the bay, is practically in the canal, and there is no trouble at all in navigating this at all stages of the tide up to here [indicating].

Senator MORGAN. I want to ask about that for just a moment. If I understand you correctly, now, a sea-level canal 500 feet wide and 40 feet deep of prism would dispense entirely with the necessity for a sea-gate, if that was extended, you say, to Miraflores?

Mr. WALLACE. Yes, sir.

Senator MORGAN. There would be no occasion for a sea-gate at all?

Mr. WALLACE. No, sir; there would be no occasion for a sea-gate between that point and Miraflores. Of course, if you have a narrow channel through Culebra, the probabilities are that you would have to have a sea-gate in there at some place; but no engineer, Senator, has ever yet been able to make any calculation to determine what the velocity of the currents would be due to an open canal without any tidal locks. They can not answer that question. I can not, I will admit it.

Senator MORGAN. That depends upon fluctuations of the winds and all that on the ocean?

Mr. WALLACE. The uncertain element is this: It depends on the relative size of the different sections of the canal in regard to each other. As a rule, what creates a high tide is a funnel-shaped entrance of a bay. That is, the ordinary tides come into it, and then being confined, pressing up, and rising, and making a curve of that nature [illustrating], of course, over a very long distance. That is what makes the extraordinary tides in the Bay of Fundy. And it is the general shape of Panama Bay that creates the high tides there at Panama. The effect of tide on the canal would depend a good deal on the sequence of the shapes of your channel. And if you had a long channel of absolutely uniform width the effect of that tide would be very soon dissipated on account of the friction of the water on the sides of the canal.

Senator TALIAFERRO. So that if you had a sea-level canal of 400 or 500 feet width from ocean to ocean there would be no necessity—

Mr. WALLACE. There would be no necessity for any tidal locks at all.

Senator MORGAN. It would take an ocean of money to build it, though.

Mr. WALLACE. If you had a canal of any width so that two ships could freely pass each other—I mean under a speed of 4 or 5 miles an hour—you would not have any necessity for any tidal locks.

The CHAIRMAN. Do you think large ships, the largest ships that are being built now and that are already built, could pass at a speed of 4 or 5 miles an hour in a waterway 150 feet wide?

Mr. WALLACE. Not both of them. The ordinary practice would be to tie one of them up.

The CHAIRMAN. One of them would be tied up?

Mr. WALLACE. That would be the ordinary practice, to tie one up to a bank and let the other pass it.

The CHAIRMAN. With the changes which you suggested in the plan a few minutes ago, having the canal widened from this end down to the sea, and from the other end also, what would be the length of the narrower part?

Mr. WALLACE. That would be 8 or 10 miles.

The CHAIRMAN. About 10 miles?

Mr. WALLACE. Yes, sir.

The CHAIRMAN. It would be 150 feet wide there?

Mr. WALLACE. No, sir; that would be built 200 feet wide. They propose to make that 200 feet wide at the summit level, as I understand it.

The CHAIRMAN. I thought it was 150 feet.

Mr. WALLACE. I may be mistaken.

Senator MORGAN. It is 200 feet.

Mr. WALLACE. Where they propose to make their canal 150 feet wide, I understand, is where they are in the mud, and where they have to have a flat slope, say, a slope of two to one, which means this: That a bank of the canal, if it is 40 feet deep, would be 80 feet out from the perpendicular on one side and 80 feet on the other, so that your canal between bank and bank would be 310 feet wide at the surface of the water. So that only vessels of the deepest draft would have to confine themselves to the center 150 feet of width.

Senator MORGAN. There are no vessels that draw 40 feet of water?

Mr. WALLACE. I do not think there are any that draw that now. I think 30 feet to 33 feet are about the heaviest drafts.

The CHAIRMAN. It is reported that they are building a couple of vessels that will draw 38 feet, I believe.

Mr. WALLACE. It would be a rare thing that you would ever have two of these great ships that would happen to pass in this narrow place—perhaps once in a year. If you have a large vessel and a small one passing each other you have ample width, because the small vessel could pass the large one entirely outside of this 150-foot channel and still have plenty of water—your vessel of 25-foot draft, say.

Senator TALIAFERRO. Will you step over there to the map and illustrate from what point on the Pacific side you would suggest a greater width to the canal—up to what point from the bay and up to what point on the Pacific side?

Mr. WALLACE. As I have just been explaining, the majority of the Commission practically give that greater width now by the flatness of their slopes; but from the entrance of the canal on the Panama side to Miraflores you could get almost any ordinary width that you wanted—four or five hundred feet—at moderate expense.

Senator TALIAFERRO. Would you say \$10,000,000 would do it?

Mr. WALLACE. I should say \$10,000,000 would do it on the Pacific side.

Senator TALIAFERRO. Now, go to the Atlantic side.

Mr. WALLACE. On the Atlantic side it would take about \$10,000,000 for each additional 100 feet in width up to, say, about San Pablo. That is just simply my general judgment on what I know of the general locality and the average depths, etc.

Senator TALIAFERRO. You spoke in your pamphlet here of the canal costing \$300,000,000. Taking the canal recommended by the Board

of Consulting Engineers, would you say that that could be widened to 500 feet from either ocean up to these points that you have designated at a total cost not to exceed \$300,000,000?

Mr. WALLACE. I would say that it could, eliminating the \$50,000,000 which was paid for the canal itself and for the concession down there.

Senator TALIAFERRO. That is all eliminated in the report of the Board, is it not?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Your estimate was \$300,000,000 for the entire canal?

Mr. WALLACE. Just before you came in I undertook to make a suggestion showing that I thought we could afford to spend that much money for a canal that was satisfactory.

Senator MORGAN. A sea-level canal is what you meant?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And cutting it through the Culebra Heights, of course?

Mr. WALLACE. Yes, sir.

Senator TALIAFERRO. You meant to undertake to show that such a canal, built at a cost of \$300,000,000, would be a profitable investment?

Mr. WALLACE. Yes, sir; that is, eventually. It would not be right off, but in a broad way it would be. If the competition which the Panama Canal would bring on the Suez would cause a reduction of \$1 a ton on the freight—not on the tonnage measurement, the way they compute their tonnage, but on the actual goods themselves—through the Suez Canal, why, on their present tonnage there, it would yield over \$10,000,000 a year, which would be saved to the commerce of the world. It would not come to the United States in tolls, but would be saved to the world's commerce immediately.

Senator MORGAN. It does not occur to me that we are out for the purpose of making money for the world. When we get to digging canals in Mars, that may be. [Laughter.]

Mr. WALLACE. I thought we were, Senator. I thought our position before the civilized world was that we were digging this canal for the benefit of the world.

Senator MORGAN. Now, let me ask you two or three questions. In building a sea-level canal, you would necessarily retain the dam at Gamboa?

Mr. WALLACE. Yes, sir.

Senator MORGAN. As a regulating work?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And that would back up a great volume of water into lakes, according to the incoming of the waters from the affluents?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Would that dam at Gamboa supply a sufficiency of water for all commercial purposes for a lock canal between, say, Gamboa or Obispo and Miraflores or Pedro Miguel?

Mr. WALLACE. The dam at Gamboa would be practicable and usable for a lock canal of any height or level that you might want to have there, up to 90 feet, 60 feet, or any other height.

Senator MORGAN. Practically usable, you say?

Mr. WALLACE. Yes; it would also furnish you your water for the entire Zone, and it would furnish electric power to run the Panama Railroad and light the entire Isthmus from one side to the other.

Senator MORGAN. Then it would be quite sufficient for the eight or ten miles across the Culebra Cut if a lock canal should be constructed between Obispo and Miraflores?

Mr. WALLACE. It would be abundantly sufficient; yes, sir.

Senator DRYDEN. Mr. Wallace, you have spoken of a plan for a sea-level canal which is not recommended by the majority. If you were confined to the recommendation of the majority or the minority, which one of those plans would you recommend?

Mr. WALLACE. Why, the majority report, decidedly. I do not recommend a plan differing from the majority report. I simply said, Senator, that there were one or two points that I question. I was asked to criticise that, and I said that there are one or two points that were suggested by the majority report that I was not sure in my own mind whether those particular details were the best or not; but as far as the plan is concerned I would like to go on record as indorsing their general plan.

Senator DRYDEN. The plan of the majority?

Mr. WALLACE. Yes, sir.

Senator DRYDEN. Do you think that a sea-level canal as narrow as recommended by the majority is a safe canal for all big vessels to navigate?

Mr. WALLACE. Yes; I do.

Senator DRYDEN. Supposing an accident occurs to a big vessel, and it blocks the canal, and other vessels are in the canal coming both ways, what is going to happen if those vessels happen to get in there and find that canal blocked up in a way that may prevent traffic perhaps for weeks?

Mr. WALLACE. I do not grant that it would delay traffic for weeks, because it would only be a matter of a few days, possibly. Of course it depends on how efficient they are in getting it out. But it is just like it is on a railroad: We wreck a train in a tunnel or we wreck a train in a deep cut, and the first thing we do is to clear it out and restore traffic. We use dynamite or fire or anything that is necessary to remove the obstruction.

Senator DRYDEN. Is it so improbable that a vessel might meet with such an accident in there that it would become impossible to take it out without great expense of time and money?

Mr. WALLACE. I can not imagine anything that would happen to a vessel sinking in the canal prism—I mean in the channel itself—whether it is a lock canal or a sea-level canal, with the appliances with which a great work of that kind should be provided, and the men skilled to use them, that could prevent the removal of a wreck in a very short time.

Senator DRYDEN. There is a margin of but 2 feet in depth in this proposed canal for the biggest vessels now in course of construction. In the case of a vessel steaming through under its own head of steam, might it not strike bottom with a margin so small as that? Will there not be danger of that?

Mr. WALLACE. It depends on the velocity with which it is moving.

Senator DRYDEN. But it would not have to move at a very great velocity, would it, if it was extremely heavily loaded?

Mr. WALLACE. Well, that statement would apply to either a lock or a sea-level canal.

Senator DRYDEN. I think that is true; therefore I wanted your opinion on that as applicable to both plans.

Mr. WALLACE. I should think for a vessel with a draft of 30 feet that you would want more than 2 feet clearance. But there is this to be considered: I do not know of any harbor in the world to-day that will let a 38-foot draft steamship into it.

Senator MORGAN. What depth?

Mr. WALLACE. Thirty-eight feet.

Senator DRYDEN. Could not such a vessel get into New York Harbor?

Mr. WALLACE. No, sir.

Senator DRYDEN. How are these big Cunarders going to get in?

Mr. WALLACE. They do not come in drawing that much water. A vessel may have a possible draft of 38 or 40 feet, but that does not mean that it will be loaded to that draft. It may not be loaded to that draft once in the lifetime of the ship.

Senator DRYDEN. Of course; that I can understand perfectly well.

Mr. WALLACE. Take the situation at New Orleans. When I was with the Central we had a very heavy export business, and we were loading sometimes three, six, eight, ten, or twelve ocean steamers per day at our docks—the Stuyvesant docks there. We had vessels there that had a draft of 30 and 32 feet of water—15,000 to 18,000 ton ships; but they loaded for the bar at the jetties, over which there was 26 feet of water.

Senator DRYDEN. At no point in the sea-level canal, I take it, would a vessel be able to proceed except at a very moderate rate, even where the canal is 200 feet wide?

Mr. WALLACE. Take the case of the Suez Canal to-day; their depth is very moderate—I do not remember what it is, but it is less than 30 feet—and their widths are much less than at Panama, and yet the commerce of the world goes through there.

Senator DRYDEN. When you were speaking of the Gatun dam, Mr. Wallace, you started to say something about the locks—that you did not like the locks—but you were interrupted by another question, and diverted.

Mr. WALLACE. What I meant was this: I may be mistaken, but in my own examinations of those borings—there have only four or five borings been taken throughout the entire length of the site on which it is proposed to build those locks, and those locks with their approaches and wing walls extend upward of a mile in length; and my criticism on the lock plan was this: First, the continuity of the locks in flight, being so close together, so that if you had an accident in one it might affect the other; and second was the view that it is very difficult anywhere in clay, in any country, for a great distance, to secure a foundation that is absolutely of a uniform and homogeneous nature; and with the great weight that these locks will have it will be a very serious question, in my mind, whether or not, unless you had a perfectly homogeneous and uniform foundation under them, you would not run the danger of having your heavy, immense, massive masonry crack, due to unequal settlements. And it would seem the part of prudence, before a lock plan of that magnitude and importance is undertaken, that the most thorough borings should be made over that entire area, and at least as close together as 100 to 200 feet apart, both laterally and longitudinally.

Senator DRYDEN. These borings have not yet been made, then?

Mr. WALLACE. I understand that they have not. While the general surface of the ground may look the same, in that country you can not tell what you have got until you get down into it. And in case there should be softer material toward the edges of this hill, in which they intend to put this lock, under the surface, and that material should not be as dense as it was under the center of it, which is a very possible situation, something that you naturally find almost anywhere under similar conditions, you are liable to have more settlement on the ends than you would in the centers of your structure, and these locks, as I understand it, are to be in series, in flight—that is, practically connected together.

Senator DRYDEN. Leaving out this danger which you have just now spoken of, do you think that there is any other danger, as to these big vessels crushing these locks?

Mr. WALLACE. No ship ever moved in the world but what there was a liability of its running into something, if there was anything for it to run into, and if its movement was controlled by the human mind. That applies to a ship, it applies to a railroad train, and it applies to everything that moves, the movement of which is directed by the personal element; and if you run into them you are liable of course to crash from one lock down into the other. As long as a vessel or car or anything moves by machinery, and that machinery is controlled by the human mind, you are liable to have errors and you are liable to have accidents happen.

Senator DRYDEN. Can you testify as to the usable length of these locks? There has been some little difference, it has seemed to some of the committee, as to their usable length.

Mr. WALLACE. There seems to be some difference. In reading the testimony I notice that there is evidently a difference as to an appreciation of the facts in the plans. I have not been able to get at the exact drawings, to be able to speak intelligently on that point, but that is a matter that it seems that the Commission ought to be able to show definitely by their actual detailed plans, what the usable length of those locks would be. That they should be a thousand feet long and 100 feet wide, I do not believe would be questioned. I think that should be their minimum dimensions.

Senator ANKENY. Mr. Wallace, I would like to ask you what effect these large vessels in the sea-level canal would have upon those low banks that you speak of; what the effect of the "wash" would be, as we call it. Would it not wash material into the prism of your channel again?

Mr. WALLACE. No; not the way they propose to build them. They have very flat submerged slopes.

Senator ANKENY. You know there is a danger of that thing, do you not?

Mr. WALLACE. Yes, I know there is; but these vessels move at a very slow speed, and not like our Mississippi River steamboats on high water against the levee.

Senator ANKENY. I had that in mind.

Mr. WALLACE. I supposed that you had. The speed at which the vessel would move through the canal would not be enough to give rise to that danger.

Senator ANKENY. That would not be one of the dangers?

Mr. WALLACE. No, sir; that is, of course, something that is common to all forms of canals.

Senator ANKENY. I understand in comparison it is, but it would not forbid operating the sea-level canal?

Mr. WALLACE. No; not at all. What would happen there would be this: In these low sections this slope is very flat, so that the wash might change that slope a little, so that it might be one of the elements that might go to make up your cost of maintenance in a long series of years.

Senator ANKENY. In the way of continual dredging?

Mr. WALLACE. In the way of dredging, yes; but it would be very slight.

Senator ANKENY. What would you do with the material that you dredged?

Mr. WALLACE. Carry it out to sea and dump it. Of course you will have to have with any type of canal, whether a lock or a sea-level canal, a certain number of dredges in case bars are formed at the mouths of streams that enter the canal, where they are not properly diverted, or to take care of points which may shoal up, due to various causes.

Senator ANKENY. It is not a serious matter?

Mr. WALLACE. No, sir.

Senator ANKENY. It is definable, to use an earlier expression of yours?

Mr. WALLACE. Yes, sir.

Senator TALIAFERRO. And it is common to both types?

Mr. WALLACE. Yes, sir; it is common to both types. Right on that point, I have seen estimates here based on the number of cubic yards that are excavated.

Senator ANKENY. Yes.

Mr. WALLACE. Showing that it would cost a great deal more to maintain a sea-level canal than a lock canal, because a greater number of yards had been excavated to make the sea-level canal. The amount of wash into a canal does not depend upon the material that has been dug out of it to make it. It seems to me that should be very plain to anyone. What it does depend upon is the nature and extent of the washable surface and the amount of rainfall that you have. Whether you have taken out a hundred thousand or a hundred million yards of stuff to make the canal has nothing to do with the amount of dirt that is going to wash back into the canal. The surface that the water flows over, its character and extent, and the amount of rainfall are the factors that make up the amount that is going back into the canal.

Senator TALIAFERRO. And its susceptibility to wash?

Mr. WALLACE. Yes; I say, its character.

Senator ANKENY. In connection with this sea-level canal there have been many objections, which you see by the reports, to its width, and reference has been made to the difficulty of two ships passing. Suppose that the old proposition or plan was in operation, could not this widening go on without interruption of the traffic. In other words, could we carry on our traffic on a limited scale, we will say, for argument's sake, and go on with the additional work of widening without interruption of that traffic to any great extent?

Mr. WALLACE. Your canal could be widened or deepened, or anything that you please, without necessarily making any disturbance of your traffic.

Senator ANKENY. If we find it inadequate?

Mr. WALLACE. Yes, sir.

Senator ANKENY. We anticipate a great traffic there, which we have a right to do, I think, from all the circumstances; but if, in the wisdom of Congress or of the Commission, it should be widened later, it could be done without interruption of the traffic that we have; am I right?

Mr. WALLACE. You are right; yes, sir.

Senator ANKENY. If the sea-level canal was adopted, where would you put the power plant that you propose to use for lighting and power?

Mr. WALLACE. I would put it at Gamboa. That is very near to the center of the Isthmus, and is what you might call the center of gravity of the work.

Senator ANKENY. That would necessarily be this dam proposition again, would it not?

Mr. WALLACE. Yes, sir.

Senator ANKENY. Now, let us leave that and come to another point. I think by pictures, you see, and you must pardon me if I digress a little. Under which proposition the majority or the minority, or the sea level or the lock canal, which ever way you wish to distinguish them, is there the greater danger from enemies? Which type has the lesser risk, in other words?

Mr. WALLACE. It seems to me that there is no question but that the sea-level canal is the safer.

Senator ANKENY. The sea-level canal is safer than the other?

Mr. WALLACE. Much safer than the other against anything that might happen to it, either by act of God or act of man, in time of peace or war.

Senator ANKENY. A sea-level canal would be the better plan, for that?

Mr. WALLACE. Yes, sir.

Senator ANKENY. Now again I will digress a little. What is your estimate of the submerged lands, under the lock proposition? Have you made any?

Mr. WALLACE. Well, that is a very difficult matter to make an estimate about.

Senator ANKENY. I know it is difficult, but it has to be fixed.

Mr. WALLACE. While the franchise or the law says that that valuation shall be the same as it was before we took possession, those things do not work out that way in practice.

Senator ANKENY. Not in their courts.

Mr. WALLACE. Not in their courts nor in our courts down there. We wanted to get some land right up alongside of Ancon here that belonged to a man named Diaz. General Davis can tell you the details about it. I do not remember them all. That property I do not believe cost that old gentleman over \$5,000. When we went down there it was not worth over \$5,000. He could not have sold it to a Panamanian for over that.

We had a commission come down there from the States, under the law; they formed part of it and we formed part of it. We had two

men coming down from the States, joined with the Panamanians. I do not remember certainly, but my recollection is that the valuation on that property was about \$50,000—about ten times what it was supposed to be worth. We tried for months—General Davis did—to buy some property at Corozal that belonged to the Shubers, that had been in litigation with the old French canal company, and they wanted a thousand dollars an acre for this land that was what we call manglares or swamps [indicating on map], lands that we did not think were worth over \$5 an acre.

Senator ANKENY. We had a specimen of that in your hospital matter there, if you remember it.

Mr. WALLACE. Yes, sir.

Senator DRYDEN. They are becoming Americanized, I see. [Laughter.]

Mr. WALLACE. They are, very, very rapidly. [Laughter.]

The result was that at Corozal I was not able to utilize ground that was very suitable for buildings. There were buildings on it that the French had there, and we went in and arbitrarily fixed them up and put our men in them. It was maintaining a status quo. We did not put any new buildings on that property.

In this territory down here there are banana plantations [indicating on map].

Senator ANKENY. And they will be submerged?

Mr. WALLACE. Yes, sir.

Senator ANKENY. Under the lock system?

Mr. WALLACE. Yes, sir. And these towns existing along the Panama Railroad [indicating on map].

Senator ANKENY. Approximately, what damage will this Government have to pay if we take those people's lands? That is a hypothetical question, but we want to know that.

Mr. WALLACE. From my knowledge of the people down there and the way they work—I mean the way they work us [laughter]—

Senator ANKENY. That is the difficulty.

The CHAIRMAN. They do work us, too. [Laughter.]

Mr. WALLACE. They do. On the whole situation, I should judge it would cost \$25,000,000 to pay for the land which will be submerged by that 85-foot dam project on the lock plan.

Senator ANKENY. I understand that you would recommend that this be done under the contract system?

Mr. WALLACE. Yes, sir.

Senator ANKENY. That is unequivocal?

Mr. WALLACE. The object of that is this: Simply to get it so that one man can be put down there and do it.

Senator ANKENY. I understand.

Mr. WALLACE. That is all. If we could do that work the way a railroad company or a private corporation would do it, why I would not say so; but from my experience with it, from the utter impossibility of the United States Government carrying on a constructive enterprise in a common-sense, business-like manner, it looks to me as if the only way there was out of it was to put it in the hands of a general contractor. Then, that general contractor, having no interest in it except to get it done, and as quickly as possible—

Senator ANKENY. And to get his money?

Mr. WALLACE. And to get his money, can put a man in charge of that work there, and can use methods which it is impossible for us as a Government to use.

Senator MORGAN. Would you turn over the railroad to the general contractor?

Mr. WALLACE. The whole business, lock, stock, and barrel.

Senator MORGAN. How would you arrange about the commercial traffic on the railroad between the seas?

Mr. WALLACE. The great business of the world is carried on by private railroad corporations to-day; and it would be the easiest thing in the world to specify the rates that that contractor shall charge, and you can hold him to his duties as a common carrier a great deal easier than you can hold one of the transcontinental American railroads to its duties as a common carrier. And the proposition is so simple; it is simply taking freight from one dock and landing it on another 47 or 50 miles away.

Senator MORGAN. And having the control of the railroad he could conduct his canal work without injury to the commerce?

Mr. WALLACE. Without any injury to the commerce whatever; and he should be required to do that. If we are spending three hundred millions of dollars to afford the world an uninterrupted line of traffic across that Isthmus at the lowest possible rate, and we can do that through that railroad, and do it now, why should we not use that railroad for that purpose? And as the contractor's work is to be to accomplish that result, he should be required to do it as he goes along, and there is no reason why he could not do it. That railroad is capable of handling and can be made capable of handling any amount of tonnage that will ever pass through that Isthmus, and doing it quickly and doing it economically.

Senator MORGAN. I would like to ask you whether there is not still some complaint in regard to the railroad rates across the Isthmus?

Mr. WALLACE. I do not know. I have not been in touch with it lately, Senator.

Senator MORGAN. I gather my information from the common source of information in this country—the newspapers.

Mr. WALLACE. What I understand is this: The rates across that Isthmus were made in this wise: There was through billing from New York to San Francisco by the way of the Panama Railroad Steamship Line and the Panama Railroad to the Pacific Mail. That rate was very low, and the average rate across the Isthmus, as nearly as I could figure it when I was there, was about \$1.92 a ton. In other words, the competition of the transcontinental railroad lines forced the Panama rate down to that figure. The Panama Railroad did not regulate the rate of the through transcontinental lines, but the through transcontinental lines regulated the rate that the Panama Railroad could charge. They could only get what they could out of what was left.

Senator MORGAN. That was very natural, because they control it?

Mr. WALLACE. Yes; all of the ports along the western Pacific coast; each of them bore a different rate across the Panama Railroad. For instance, the railroad rate was dependent upon what the stuff was and where it came from. In other words, coffee from one port might bear \$6 a ton and from another port \$4 a ton for its passage across the railroad. What regulated those rates was what it cost to take that stuff

around Cape Horn. In other words, the Panama Railroad charged on that traffic what that traffic would bear, up to the last mill.

I understand those rates have been cut in two, and there have been some minor adjustments, but there is no reason why that service should not be rendered to everybody, and to everybody alike, and there is nothing that you are going to do to develop our trade relations with those South American countries that will help out any more or any better than to make out the lowest possible rate that you can on the railroad across that Isthmus and let those people have the benefit of it. That will develop their country and their purchasing power and increase our trade.

Senator MORGAN. The railroad is under the operation and control of a New York corporation?

Mr. WALLACE. Yes, sir.

Senator MORGAN. That corporation fixes all the rates?

Mr. WALLACE. Yes, sir.

Senator MORGAN. The Commission does not fix the rates; can not fix the rates?

Mr. WALLACE. Yes, sir.

Senator MORGAN. It has been the work of the corporation?

Mr. WALLACE. Yes, sir.

Senator MORGAN. So that the officers of that corporation are the most important officers on the Isthmus to-day connected with the movement of commercial business, and also supplies to the Isthmus of every kind that are necessary to conduct the canal work?

Mr. WALLACE. That is true. And the officers that control the railroad in New York, with very few exceptions, have never been down there. They do not know what they have got.

Senator MORGAN. In the contract plan that you suggest, it would be necessary to put the control of this railroad, rates and all, in the hands of the contractor, seeing that he did not charge too much?

Mr. WALLACE. Yes, sir.

Senator MORGAN. That would be the programme?

Mr. WALLACE. Yes, sir. There is one thing I want to say, if you will pardon me for mentioning it, and that is that the United States Government and myself are the only stockholders in the Panama Railroad. I bought a share of stock in order to qualify myself as a director in the Panama Railroad. I gave the United States my check for it. They bought back an option on that stock, and took my check and cashed it. And they have got my money and they have got the stock. [Laughter.]

Senator MORGAN. The Government seems to be doing pretty well in the railroad business. [Laughter.]

Mr. WALLACE. But, technically, I happen to be the only stockholder of the Panama Railroad, except the United States Government.

Senator MORGAN. You delivered up your share of stock, did you not, to the Government?

Mr. WALLACE. The Government has it.

The CHAIRMAN. And your money, too? [Laughter.]

Mr. WALLACE. Yes, sir. But that, of course, is neither here nor there.

Senator MORGAN. So that, if you were really a stockholder in the Panama Railroad Company and also a director, you would have a very potential voice in the management of the rate question?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And they would not get away from you, would they?

Mr. WALLACE. Not if I had influence enough to do anything.

Senator ANKENY. There is one other point that I had in my mind that I wanted to ask you about: In advocating the contract system, which I understand you do, how would you dispose of your plant; I mean your machinery, your shovels, etc., which belong to the Government. What would be your suggestion?

Mr. WALLACE. I would turn them over to the contractor.

Senator ANKENY. Everything?

Mr. WALLACE. I would turn everything down there over to him—your shops, your old machinery, and your new machinery, and everything else.

Senator ANKENY. If either type of canal were completed (we will call them, for convenience, the lock and sea level), what, in your opinion, would be the cost of maintenance? Which would be the greater expense to this Government, or which could we maintain easier?

Mr. WALLACE. Of course, it is a very difficult matter to figure on those expenses.

Senator ANKENY. I know it.

Mr. WALLACE. But I should judge you would save at least a million dollars by the sea-level canal; that it would be at least a million dollars cheaper per annum to maintain.

Senator MORGAN. Per annum?

Mr. WALLACE. Yes, sir; per annum.

Senator DRYDEN. That makes no allowance for the capital invested?

Mr. WALLACE. None whatever.

The CHAIRMAN. I think we had better take a recess until 2.15.

Senator TALIAFERRO. There is one question that I wish to ask, Mr. Chairman.

The CHAIRMAN. Very well, Senator.

Senator TALIAFERRO. You spoke of the estimated cost to the Government of these lands that would be submerged by the lake in the lock-canal plan. What have you to say about the lands that would be submerged by the Gamboa dam?

Mr. WALLACE. The difference is simply this: There is a very small population in the Chagres Valley above Gamboa, and the larger part of the population in the Zone is in the valley below Gamboa. You will find that, as a rule, the more numerous and the smaller the holdings are, the more trouble you will have with them.

Senator TALIAFERRO. As a matter of fact, does not the Government own more of the land than would be submerged by the lakes in the lock plan than they do in the upper Chagres Valley that would be submerged by the Gamboa dam?

Mr. WALLACE. I doubt it. Those titles are very much involved. We supposed that we got from the treaty a sufficient amount of land between La Boca and Corozal. We supposed that we had that. At least I understand that that was General Davis's view and Judge Magoon's view. But we found, when we commenced to dig into it, all sorts of complications in regard to the title. So I think you will find, when you get at it, that whenever there is any particular piece of land that you want that the Government does not own it in such a way as to relieve you from having to pay somebody else for it, just the same.

Senator TALIAFERRO. Have you made any estimate at all of the acreage that would be submerged by this Gamboa dam?

Mr. WALLACE. No, sir; I told you that was just simply a round, off-hand guess—that 25,000,000.

Senator TALIAFERRO. I am speaking of the Gamboa dam.

Mr. WALLACE. That depends on the height of water that there will be. I have not the tables with me, but that is worked out in a set of tables showing the area at different heights of water. It is very easily determinable though.

Senator MORGAN. The amount above the Gamboa dam at the time of the Hay-Varilla treaty was made had very little value.

Mr. WALLACE. That is true, both above and below; but there is a very small population above Gamboa. I have been up there, and after you get away from the river it is simply a jungle for miles.

Senator MORGAN. And steep hills?

Mr. WALLACE. And ravines that ramify in all directions. This shows it, approximately [indicating on map], all these depressions you see. There are no inhabitants up in here [indicating on map]. Occasionally, at these little towns, there will be one or two or three families in thatched huts.

Senator MORGAN. There is a little village between Gamboa and Alhajuela, is there not?

Mr. WALLACE. Yes, sir; but it is practically a wilderness after you get above Cruces there.

(The committee thereupon took a recess until 2.15 o'clock p. m.)

AFTER RECESS.

STATEMENT OF JOHN F. WALLACE, ESQ.—Continued.

Senator KITTREDGE. Mr. Wallace, what is the character of the material under the dams at La Boca, Sosa Hill, and from Ancon Hill to Corozal, as proposed by the minority?

Mr. WALLACE. I can explain that to you better from reference to one of these maps. At the mouth of the Rio Grande these are mud flats; and the mud, I understand, depending on the depth of the water, is all the way from 25 to 55 or 60 feet in depth—a soft mud or ooze.

In between Sosa and Ancon, of course, there is rock at a moderate depth, but there is soft material in the line of the other dam between Corozal and Ancon. The cross sections of those dams, as shown by the minority report, of course show those depths, but the situation is a little different from what it is at Gatun, on account of the fact that underneath all of this soft material there is practically a bed rock, and the dam is of a more moderate height. It is to contain about 55 feet of water. The difficulties in the way of its stability are, of course, much less than they are at Gatun, but they consist of this: If you put any weight on that soft mud the soft mud is pressed out from under the weight that you put on it, and before you get a stable structure the entire area of soft mud will have to be pushed out from under the dam. If any of that soft mud should be contained in it in a pocket any undue pressure on one side of the dam or the other might cause the pressure of that soft mud to operate along the lines of hydraulic pressure and might impair its integrity at some time.

In other words, it is necessary, at the La Boca dam, that all of that soft mud be removed by some process or other, either by filling in the hard stuff in the center each way and pressing it out each way, or else by its removal by dredging or pumping, before the dam is constructed.

Senator KITTREDGE. How do the conditions that you have described in regard to the location of the dam at La Boca, as proposed by the minority, compare with the conditions in the railroad construction across Salt Lake?

Mr. WALLACE. They are practically similar to what we would find in a place like the Lucene cut-off, where the Union Pacific Railroad built its line across the Salt Lake; and it is a condition that you frequently meet with where you build railroad embankments across marshes. That is, you never get stability of a railroad embankment across a foundation of that character until the soft material has been eliminated in some way or other.

Where you have a hard surface below, what occurs is that the weight on the soft surface will push that soft stuff up. It may be 100 or it may be 500 or it may be 1,000 feet away, and it will come up at some other place. But if you will notice the cross section that is shown of that dam it is several hundred feet across, and before that dam can be brought to a state of stability all of that soft mud underneath it will have to be eliminated, either by crushing and pushing it away or else by dredging, before the dam is constructed.

My understanding from my reading of the minority report is that they intend simply for the embankment to be built in that material, and that material to be compressed by it.

Senator KITTREDGE. This morning a suggestion was made, or a question was asked, concerning a sea-level canal from the Atlantic to the vicinity of Obispo, from the Pacific to the vicinity of Miraflores, and a lock structure or canal between the points Obispo and Miraflores. How much less money would it cost to construct a canal along those lines than a sea-level canal?

Mr. WALLACE. Of course that, Mr. Senator, would depend upon the details of the plan; but I presume that there would be a difference of possibly \$50,000,000 between those two plans—that is, in round numbers.

Senator KITTREDGE. That is an estimate, as I understand you?

Mr. WALLACE. Yes; that is simply an off-hand estimate.

Senator KITTREDGE. I wish you would tell us in regard to the difference in time of construction between the two plans proposed by the Board of Consulting Engineers and the minority.

Mr. WALLACE. My own estimate is that I know of no elements in that problem that could possibly make that length of time longer than about three years. That is predicated on the supposition, if you will pardon me, that the excavating of the central divide is the controlling element.

Now, personally and individually, I doubt very much whether or not these large locks, with the immense amount of concrete and structure that has got to be put in by labor more or less skilled, and put in in forms, and depending upon material coming there just in right quantities at the right time, I doubt very much whether the central excavation could not be taken out at Culebra for a sea-level canal as soon as these immense locks could be constructed. It is an open ques-

tion in my mind. I think the minority have underestimated the time it will take to construct those locks.

Senator KITTREDGE. Mr. Stearns or Mr. Noble, or both of them, in their testimony given to us last week, said that it would require fifteen years to construct the sea-level canal.

Mr. WALLACE. Of course there is one thing I would like to remark, if I can do it without egotism, and that is this: I do not know of any of the engineers that have been connected with this work, on either the regular Isthmian Canal Commission or the Advisory Board, that have had any large amount of experience in handling steam shovels and railroad trains and the disposition of material. I think I can honestly say that I have had more experience than all of those men put together in the handling of excavated material by train and by steam shovel, and the proposition for a sea-level canal is simply "dig, dig."

Senator SIMMONS. Do you include Mr. Stevens in that statement?

Mr. WALLACE. No, sir; I do not. Mr. Stevens is a man that has had a great deal of experience in railroad work, and his experience I think more nearly meets my own than any of the other engineers connected with that work. He is a man for whom I have the highest respect; but I do not know what his experience has been in steam-shovel work, except that I know that he has had a very large and long railroad experience. But I have had a peculiar kind of work that very few engineers have had, and that has been in the shape of grade-reduction work, double tracking, and the work of excavating large quantities of material and disposing of it along and adjacent to operated lines of railroad.

This proposition at Culebra, as far as a sea-level canal is concerned, is practically a railroad proposition. It is just the same as if you were relocating the Panama Railroad and reducing its grades, making a big, heavy cut along its line, using that line as one of the instruments to do your work with; and whether you run a railroad through the bottom of that excavation after you get it done, or whether you let water in it and float steamships through it is entirely immaterial. But the sea-level proposition, as far as that central cut is concerned, is simply a railroad proposition.

Senator KITTREDGE. And what do I understand you to say about the fifteen-year period suggested by Mr. Stearns and Mr. Noble?

Mr. WALLACE. I said I thought it was too long.

In the appendix to the report of the Advisory Board, I furnished that Board a series of diagrams that took the heaviest half-mile section there was there and showed exactly how I would place steam shovels to do that work, how I would arrange the tracks to serve them, and the cars to serve them, the different dates at which steam shovels could be installed, when the first steam shovel could be installed, and when the last would be, and a scheme covering that whole work, on a tentative basis—that is, on the basis of those steam shovels handling 1,000 yards per day and working twenty days in the month. I also made a similar diagram on exactly the same principles for a 60-foot level canal; and the difference between the two figured out, I think, less than two years and a half.

It may not be clear to the members of the committee, but it is a fact that the length of time that it will take to do that work is not in proportion to the amount of yards to be moved. The length of

your cutting affects it and the width of your cutting. It is not as if you were digging a ditch with a spade. That work has to be begun by putting steam shovels in along terraces. The more terraces you get and the wider your cut is the more steam shovels you can work at the same time. So, from the date of commencement for about three years you will be continually adding shovels, and then you will be working for a few years the same number of shovels, and then you will work gradually less and less until you get down to the bottom. In other words, the difference between the rate of progress is affected by the amount of what you can do in the maximum year and not by your average per year.

I do not know whether I have made that matter clear to you or not.

For instance, on the 60-foot plan, say that the first shovel started in January, 1906; the last shovel would complete its work in August, 1912. That is on that supposition. On the sea-level plan, which you will find in this report, my recollection is that the time was a little under nine years.

Senator KITTREDGE. I wish you would call attention to the page when you find it.

Mr. WALLACE. That diagram is diagram No. 3, and you will find it between pages 373 and 374. On the sea-level plan, with the first shovel starting on the 1st of January, 1906, the last shovel completes its work in December, 1914. That is practically nine years.

This diagram shows exactly the dates on which every shovel will start; and while this is only a tentative plan, it is one that a contractor would expect to exceed in efficiency rather than fall below it. A thousand yards a day is about one-fourth of the loading capacity of those large steam shovels that are now on the Isthmus, in ten hours, provided they are properly served with cars and the material is properly blasted ahead of them. In other words, to get that result you will only have to work those machines to 25 per cent of their capacity, and do it for twenty days in the month.

Senator KITTREDGE. Is there any difficulty in doing the blasting work necessary to serve the shovels to that extent?

Mr. WALLACE. No. Of course that is something that has to be looked after. The limitation on all steam-shovel work, as a rule, is the arrangement of the tracks and having plenty of tracks and plenty of cars, and seeing that your shovels are continuously fed. I got out as high as 1,800 yards in one particular day with one particular shovel when I was down there. Along in the dry season it ran about 800 yards a day per shovel. The reason that we fell below the maximum was because we did not have any facilities, except the shovels, that properly went with them. That is, we did not have proper drills, and we did not have proper track. We had those old French cars and those old French engines, and our tracks were poor; we did not have any ballast for them, we were short of ties to keep them up, and in fact, we were short of everything. But in spite of all those disadvantages there were several months there in which we got from 750 to 800 yards per day out of those shovels, and I do not think it ever fell below 400 yards a day.

Senator MORGAN. In the dry season or the wet season?

Mr. WALLACE. That was in the dry season.

Senator MORGAN. All of this?

Mr. WALLACE. I say, in the worst month we had, in June, it dropped down to about between 400 and 500 yards a day per shovel. That was when we had 25 or 30 derailments every day: when the men were so discouraged on account of the engines getting off the track that they did not see why we should continue the work.

With proper equipment and with the right kind of equipment, which you are getting down there now, I do not see why the estimate of 1,000 yards a day per shovel is not a very low estimate.

The CHAIRMAN. Is that for ten hours a day?

Mr. WALLACE. For ten hours a day.

Senator TALIAFERRO. You were working eight hours a day, were you not?

Mr. WALLACE. I was working ten hours a day up to about the 1st of May. The last two months I was down there we worked eight hours a day, and then our capacity dropped off very much.

The CHAIRMAN. If you were to work two shifts a day, of course you would gain?

Mr. WALLACE. You would get more than that, of course?

Senator TALIAFERRO. Probably a third more?

Mr. WALLACE. Well, yes; I should say about a third more. That is, I have never yet seen work where you could do exactly double the work with two shifts that you can with one; but you can get from 50 to 75 per cent more. When I say a third more, I mean that it would be 50 per cent more. You should do that at the very least.

Senator SIMMONS. Do I understand you to express the opinion that a sea-level canal could be constructed within nine years?

Mr. WALLACE. On this tentative plan, nine years is the time it would take from the time the first systematic installation of your shovels would commence. That is based on taking the heaviest half-mile, not the heaviest average 8 miles; because there is one half-mile which has more material in it than there is in any other half-mile, so I have taken the worst half-mile there was.

Senator SIMMONS. Do you mean it would take nine years to dig it, or that in nine years the dam at Gamboa could be finished and the canal be ready for the use of ships?

Mr. WALLACE. What I mean to say is this: That on the sea-level plan there is not any doubt but what the thing which will limit the completion will be that central cut at Culebra. You can build your dams and you can do all your dredging, your harbor work, easily within four or five years.

Senator SIMMONS. Everything else will be ready when that is finished?

Mr. WALLACE. Yes.

Senator SIMMONS. And your estimate is nine years?

Mr. WALLACE. I estimated nine years. After that I made an allowance on top of that, and said that I thought ten years would be time enough, and at all events twelve would be an ample estimate for it.

Senator SIMMONS. And it would take about three years less time to complete the lock canal?

Mr. WALLACE. Yes; that is, theoretically, I should say there was three years difference between the two plans; but I doubt very much whether that three years would not be eaten up by all sorts of happenings that would arise when you would go to build these immense locks.

Senator SIMMONS. I do not know that I understood you about those locks a little while ago. I understood you to say (and I want to ask if I understood you correctly) that you thought it quite probable that it would take as long to construct those locks as it would to build the canal by the sea-level plan. Do I quote you correctly about that?

Mr. WALLACE. Yes.

Senator SIMMONS. By the sea-level plan?

Mr. WALLACE. Yes.

Senator SIMMONS. Then, as the locks would absolutely have to be built, the conclusion would be that it would take as long to construct the lock canal as it would to construct the sea-level canal, would it not?

Mr. WALLACE. That is, I would very much doubt but what it would take about as long to build the one as it would the other.

Senator SIMMONS. Then what did you mean when you said that the lock canal could be built probably in three years less time?

Mr. WALLACE. What I said was this: I said that that was based on the time that it would take to remove the excavated material from the Culebra Cut, applying the same process to excavating for the lock canal that you would for the sea-level canal. I said that leaving out of consideration the construction of locks and dams, and only measuring your progress by the excavation of the summit cut, there would be three years' difference in doing that work. In other words, you could excavate the material from the summit about three years quicker on the high-level plan than you could on the sea-level plan.

Senator SIMMONS. Then your conclusion is that we could not get the lock canal ready for use any quicker than we could the sea-level canal?

Mr. WALLACE. I doubt very much if you could. That is the impression I was trying to convey.

Senator MORGAN. Mr. Wallace, you said all sorts of happenings might occur in the construction of the locks. To what did you refer?

Mr. WALLACE. Well, for instance, there is something like a million cubic yards of material, I understand, to be used in those locks. If those locks are constructed of concrete (which I presume is what they intend to build them out of) that means practically a million yards of broken rock; it means a million yards of sand; it means a million barrels of cement.

Those three classes of material must be manufactured and transported to the site of that work in properly related quantities. Take cement, for instance. That climate is so moist that even if cement is housed you can only keep it for a limited amount of time on the Isthmus, and it will require a great deal of care to see that that cement is brought there just fast enough for that work and not too fast. It is the same way about crushed stone; you must see that that is properly supplied.

Senator MORGAN. Would you have to bring that across the ocean?

Mr. WALLACE. The cement you would bring across the ocean; the crushed stone and sand you get on the Isthmus.

Another point: That million cubic yards of material is practically equivalent to a million tons—that is, in round figures; and on the basis of 500 tons to a train load, it means 2,000 trains. That gives you some general idea of the mass of material that will be required just for those locks alone. That means 2,000 trains of 500 tons per train, net load.

Senator MORGAN. Mr. Wallace, the cut through the Culebra and Emperor heights—that is one ridge, is it not?

Mr. WALLACE. Yes, sir.

Senator MORGAN (continuing). That has been brought down from the upper crest to about what height above sea level?

Mr. WALLACE. It is about 150 feet.

Senator MORGAN. That would be an average through, would it—150 feet?

Mr. WALLACE. No; I do not think the average for the whole 6 or 7 miles there would be much over 100 feet; but there are 2 or 3 miles there that will average about 150 feet above sea level.

Senator MORGAN. Yes; that has been cut down in trenches or terraces?

Mr. WALLACE. Yes, sir.

Senator MORGAN. The height of each terrace is about 30 feet?

Mr. WALLACE. No; those terraces are very irregular. They will all have to be worked over again in order to suit steam-shovel work. Those terraces were adapted to the French style of excavator. The terraces which I proposed in my tentative plan were terraces of about 30 feet horizontal and about 25 feet perpendicular until you got down; and then after that you would make the slopes to suit the final section you intended to leave.

Senator MORGAN. Is there any terrace on either side of the excavation as it stands now that passes on the same level or nearly the same level clear through the cut?

Mr. WALLACE. Yes; there were several when was I down there that did?

Senator MORGAN. About how high are they above where the work is now being conducted?

Mr. WALLACE. We were working on those terraces.

Senator MORGAN. So that these terraces upon which you are now operating with your steam shovels go clear through the cut?

Mr. WALLACE. That was the intention. When I left there I was starting to work different terraces through. I commenced one on the east and north of the canal that was about on the rock line, and I was taking that clay back 75 or 100 feet from the edge—the clay that overlaid it.

Senator MORGAN. Leaving out of consideration the repairs which may be found necessary to readjust the levels properly upon the terraces as they have been constructed, and taking the one upon which you are operating now with the steam shovels, you would have to go below that if you worked a steam shovel on every terrace; you would have to go below that to the bottom of the canal; and what would be the distance between the average elevation of this lowest terrace on each side and the bottom of the canal when completed 40 feet deep?

Mr. WALLACE. When I left there we were working on several terraces, and where the lowest steam shovel was at work was about 160 feet above sea level; that is, the final depth of the sea-level canal would be about 200 feet below the elevation at which the shovel was working, which was in the highest part of the excavation.

Senator MORGAN. Yes. Now, take the terrace that stands at an elevation of 200 feet above the bottom of the canal, the one you are now working on, or were working on when you left there. You would

want to put in steam shovels upon terraces from that point down to cover the distance of 200 feet to the bottom of the canal, would you not?

Mr. WALLACE. Yes.

Senator MORGAN. So that you would expect the work to progress with some degree of uniformity of breast?

Mr. WALLACE. Yes.

Senator MORGAN. And do all of the work as you went along upon each terrace. Now, you would commence at the bottom of the canal; that would be the first opening you would cut. Of course there would be no terrace there until you got up 25 feet, if you took that for the elevation of your terrace. You would have to excavate 40 feet below sea level, and about how much above, before you got through? No, you would commence with your work about 40 feet below sea level, and then you would have a terrace above that every 25 feet or every 40 feet, whatever the height might be that you would adopt for the terrace; and all of these shovels, as I understand it now, would work practically abreast, each shovel doing its own work on its own terrace. Is that right?

Mr. WALLACE. That is right, only it is a little different from the way you have stated it. The maximum number of shovels that would be at work at any one time abreast would be eight on each half mile. That is, there would be one time when there would be four shovels on each side of the cut in each half-mile of distance, because it takes about half a mile between two shovels in order to put in the necessary track arrangements so that you can get around and work all your shovels independent of each other.

Senator MORGAN. I am trying to get at and to ascertain whether this plan of construction is the one which you have adopted. The digging out of the prism of that canal would be a cut in solid rock?

Mr. WALLACE. Yes, sir.

Senator MORGAN. At least 40 feet in depth and 200 feet wide?

Mr. WALLACE. Yes; that is what you would get down to finally.

Senator MORGAN. I say, finally; I am starting at the beginning of the work.

Mr. WALLACE. I know; but we would not start there. We would start at the top.

Senator MORGAN. You would not start at the bottom?

Mr. WALLACE. No, sir.

Senator MORGAN. Why not?

Mr. WALLACE. If I had a blackboard here I could show you. For instance, say this is the sea here, and this is your hill, like that [indicating].

Senator MORGAN. Yes.

Mr. WALLACE. Now suppose the excavating to start in here—one shovel would go through there [indicating] and then another one would come in here afterwards [indicating], and then after it got in a certain distance another one would follow, and you would work from both ends toward the center, and you would work down; you would commence up here and you would gradually dig these various terraces out until you would finally reach the bottom.

Senator MORGAN. Could you construct the canal by beginning at the bottom and working up?

Mr. WALLACE. No; because you would have such a steep face in here that you could not get shovels enough to work in it.

Senator MORGAN. You could get how many abreast in the bottom of the canal, 200 feet wide?

Mr. WALLACE. You could probably only get four in there.

Senator MORGAN. Four?

Mr. WALLACE. Yes.

Senator MORGAN. And each one would have a separate track?

Mr. WALLACE. Each one would have its separate tracks; but when you are up here, halfway up in the cut, you can work eight abreast. Now, this diagram (if you will follow the description of these numbers) shows exactly when each shovel starts out, how much of a slice it takes, and how many slices are taken out simultaneously. It is hard to explain it by words; but, for instance, at first there would only be two shovels abreast, and they would dig a section of about $12\frac{1}{2}$ feet; and they would put that material on a track that would be on the edges here. Then after that slice was taken out the tracks would be laid in behind those shovels, and these shovels, No. 2, would start in, and take out a bench that would be 25 feet or 30 feet wide, and put that material on cars that would be where the first were.

Then, after the 2's were taken out the 3's would start in and put the stuff over on tracks that would follow the second shovels, and so on with the 4's, and later on the 5's. When you got down to what we call the No. 10 shovels there would be 8 of those. Now, that is not on the immediate bench below, because it is necessary to follow the sequence through to see how they would come. That tenth shovel would be on a bench at least 75 feet wide, and there would be tracks out here where the second shovel had been, and there would be tracks where that ninth shovel was; and the 10 shovels will take out these slices that are shown on this cross section.

It is rather intricate to follow.

Senator MORGAN. What is that heavy cut in the center of your diagram there?

Mr. WALLACE. This one? [Indicating.]

Senator MORGAN. Yes.

Mr. WALLACE. That is where the shovels are worked in parallel in order to keep a central cut which will be 60 feet wide and average $12\frac{1}{2}$ feet below the balance of your excavation. What we call the "pilot shovels" will be at work shoving that depression always forward, ahead of these other shovels.

Senator MORGAN. When you go down to sea level with your shovel work and want to go lower down, 40 feet lower, could you continue your shovel work?

Mr. WALLACE. Just exactly in this same way; yes, sir. The only thing we would do differently, then, would be to leave barriers. You have heard before, in the testimony, reference made to what they call "elevation plus 10."

Senator MORGAN. Yes; I know about that.

Mr. WALLACE. What they mean by that is that you can go down to an elevation of 10 feet above the sea level and have room enough for the water to flow out of your cut by gravity.

Senator MORGAN. I know.

Mr. WALLACE. But when you go below the sea level—

Senator MORGAN. It flows the other way?

Mr. WALLACE. It goes the other way, and the water stays in your cut. The only extra expense that that will be to you, if you leave the barriers in, will be the fact that you will have to pump water out of that excavation, and the extra expense will be due to pumping that water out. It is just the same as if you were working in a cofferdam.

Senator MORGAN. Now, working from the top to the bottom, after you got the different benches worked out and the material cut away to the width you wanted it, you would dispense with these shovels as you worked down?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And finally you would get down to four?

Mr. WALLACE. Yes.

Senator MORGAN. And those four shovels will have to do all of the work except the breasting?

Mr. WALLACE. Yes.

Senator MORGAN. From mean sea level down to 40 feet below?

Mr. WALLACE. Yes. That is, there are practically two furrows that are cut through where you will only have four of them at the last.

Senator MORGAN. Yes. You do not expect to employ more than four shovels in the bottom of the prism of the canal?

Mr. WALLACE. No. It is just as if you were running a gang plow through there that had four plows to it, and then you followed that with four other plows to dig it a little deeper.

Senator MORGAN. If you worked from the bottom to the top you could have all the shovels that you employed, every one upon each bench, in operation at the same time, could you not?

Mr. WALLACE. No; I do not follow you. If you had your whole canal opened out—that is, a narrow ditch from one end of your canal to the other, of the full depth—and could lay out terraces all the way along, you could work a shovel on each terrace, you understand, and you could do it all simultaneously; but that necessitates getting down first to the sea level clear through your cut, and by the time you get down there you have your work almost done.

If you were going to build a canal that was 500 feet wide or a thousand feet wide, like Mr. Bunau-Varilla's "Straits of Panama," after you got down to sea-level you could work just as many shovels abreast as you had terraces, and do it all simultaneously, and you could widen that cut out to 500 or 1,000 feet with an enormous number of steam shovels, and the depth would not make any difference, because for every additional 25 feet in depth you would have a steam shovel.

But the 200-foot width is so narrow that in order to get that face there is a time when you can work more shovels than you can at any other time, and that is about from one-third to one-half way down through the cut, and you would necessarily have to commence on top. But while you are doing this work on top, in the real work, there is no reason why you should not attack this excavation by bringing your dredged sections up to the foot of the cut on each side and working your dredges right up against this steep face and working in both directions from the sea.

Senator MORGAN. When you say "dredges," do you mean "shovels?"

MR. WALLACE. No; I mean "dredges" in that case. In other words, while you are doing this dry cutting you are shoving your dredges in from the sea—that is, from La Boca toward the hill and from Colon toward the hill—and the supposition is that you will have your canal dug up to this point before you get this dirt all out; and you will have it dug up to this point before you get this dirt all out [indicating]. Now, while you are doing this work in the dry, as we call it, there is no reason why you should not attack this part, you understand, and push the sea-level sections just as far in toward the summit as you can get them.

Senator MORGAN. Then your plan is to dredge from the sea in to, say, Obispo on one side?

MR. WALLACE. That is a question; just as far as you can do it economically.

Senator MORGAN. I say, dredge in from the Bay of Limon—

MR. WALLACE. If you found rock down in here that you could not dredge, then you would want to stop your dredging here, and probably you would have to take this out [indicating] in the dry. But the probabilities are that you could get up to possibly Obispo with your sea-level section.

Senator MORGAN. There is no rock that would be encountered there that you could not dredge—by which I mean, of course, that you could blast it and haul it out, float it out, instead of hauling it out on a railroad?

MR. WALLACE. Yes, yes.

Senator MORGAN. That is what I mean by dredging. That is a part of the dredging?

MR. WALLACE. Yes.

Senator MORGAN. Now, if I understand it, you would start in the Bay of Limon and dredge up to, say, Obispo; then you would start on the other side in the Bay of Panama and dredge up to Miraflores, or wherever it is, there. Then, if I understand it, you would continue to take out all of the stone lying below the sea level to the bottom of the prism of the canal by this dredging process?

MR. WALLACE. No; only up to those points [indicating]. All of the material that I could remove by what we call dry excavation between Pedro Miguel, say, and Obispo, I would prefer to remove in that way, because you can do it cheaper.

Senator MORGAN. Cheaper than you can by hauling it out on boats?

MR. WALLACE. Yes; that is, I mean, you can blast it and mine it cheaper in the dry than you can in the wet.

Senator MORGAN. But you have to mine it in the wet when you get down 40 feet below sea level, have you not?

MR. WALLACE. No.

Senator MORGAN. How do you manage to avoid that?

MR. WALLACE. You leave barriers of the natural rock at each end of your cut, and then go down in between those barriers and excavate it; and then, after you get your canal section cut out, you cut away these barriers and let your water in, so that it will be a natural cofferdam.

Senator MORGAN. With an 18-foot annual rainfall, and water sluicing down from these heights, you would find that ditch full of water, would you not?

Mr. WALLACE. Oh, no, sir; because you can divide it up into sections and pump it out, and you can push that work in the dry season for four or five months of the year, when you have practically no rainfall there at all.

Senator MORGAN. Yes; and in the wet season?

Mr. WALLACE. In the wet season you have it; but in my own experience I have pumped out cofferdams that had water from 10 to 15 feet deep, 300 feet wide, and a quarter of a mile long, in twenty-four hours. The rainfall at Culebra for the year that I was down there was 75 inches—that is, for the entire year; and of course when you get down —

Senator MORGAN. How much was it in the wet season?

Mr. WALLACE. That was in the wet season and the dry—the whole year.

Senator MORGAN. It all fell in the wet season, did it not?

Mr. WALLACE. Practically. We had four months when it was comparatively dry.

Senator MORGAN. Yes.

Mr. WALLACE. Now, what any prudent man would do would be to concentrate his work and try to do as much of it as he could in the dry season.

Senator MORGAN. That is the point exactly.

Mr. WALLACE. Undoubtedly he would. But the reason the advisory board added to that and made the unit price \$1.50 per cubic yard was to give an amount that would justify pumping that water out, and with the powerful pumps that we have nowadays you could pump the full capacity of the Chagres River at low water out of that cut if you had to.

Senator MORGAN. Then you would take out—

Mr. WALLACE. Now, the only reason, Senator Morgan, that I suggest that plan is because that would be a little cheaper than to excavate that rock under the water.

Senator MORGAN. You mean by what is called the dredging process?

Mr. WALLACE. Yes. That is, you can blast it cheaper in the dry than you can under water, because you can space your holes better, you can do your drilling better, you can see the character of your rock and you can get around it and over it, and I presume that you could possibly save about a dollar a yard on doing this work in the dry rather than doing it in the wet.

Senator MORGAN. These heavy steam shovels require a strong track under them, do they not, and a well-ballasted one?

Mr. WALLACE. Yes; but the material in that cut, after you get below an elevation of about 190 or 200 feet, after you get below the clay, will stand any weight you want to put on it. The only trouble that I had down there was that I upset one of these big steam shovels, because I got it up on the side of a hill in this sliding clay, and a very hard rain came up unexpectedly; the shovel was standing over a place in the ground where there was a subterranean stream of water that ran on top of the hard material under this clay, and there was about 8 or 10 feet of clay on top, and a slide came down, and the clay ran away from under the stream on one side that the shovel was standing on, and the shovel tipped over. But that was the only accident of that kind that I had while I was down there.

Senator MORGAN. As you push these shovels against an embankment you cut in front of the shovel? The cutting is done in front of the shovel?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And then you load it onto a car?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Back of the shovel?

Mr. WALLACE. Right alongside. The idea is to——

Senator MORGAN. Alongside; so you have to have a track for the shovel and a track for the car?

Mr. WALLACE. You have to have a track for the shovel.

Senator MORGAN. And one for the car alongside?

Mr. WALLACE. Yes. Now, the track should be along on this bench here [indicating]. The shovels would be on the bench parallel to the track, against the face, and they would work a piece about 30 feet wide and about 20 feet high, and then the material would be blasted ahead of the shovel, and the shovel would work the stuff up just like you would take it up with a shovel by hand and put it over on the cars that would be parallel to it.

Senator MORGAN. Yes; I understand that now. Therefore, you have to improvise a track as your shovel advances toward the embankment you are cutting in?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And that is always in loose earth, is it not; and comparatively uncertain?

Mr. WALLACE. Oh, no, sir. Below 200 feet there is no trouble at all with that; and we had no trouble whatever, all the time I was down there, in maintaining our working tracks under our shovels. The trouble we had with our tracks was with our running tracks out on our spoil dumps, where we had to put in sharp curves and frogs and switches, and where the equipment was rigid, so that it would not go around the curves, and the track would settle because we did not have any material to ballast it with, and our trains would go off the track.

Senator MORGAN. When you got down to digging at 40 feet below sea level in these compartments we speak of, and blasting out the stuff, you could not use shovels there, could you?

Mr. WALLACE. Yes, sir.

Senator MORGAN. By putting them down on a level with the bottom?

Mr. WALLACE. Oh, yes; they would go right down on a level with the bottom. That is all hard material down in there.

Senator MORGAN. If you could use them when you got down that deep, why could you not use them before you got down that deep, by putting your shovel against this breast of rock?

Mr. WALLACE. We can; only it is not safe to work against a breast of rock that is more than about so high.

Senator MORGAN. It is not safe?

Mr. WALLACE. It is not safe. You are liable to undermine it, and you are liable to have slides, and it will come down and bury your shovels up. In other words, if you were working your shovels in that way, you would be working in what we call a through cutting. The objection to that is this: That you can not get your cars ahead of your shovel in order to load your stuff into them; you can only load one car at a time, and then you have got to take that car out and put another one in.

Now, the reason I wanted to get all these terraces clear through the cut and then start and cut one out and put it on a track, and then another one, was so that they would get the cars like this—say this was the face we were working against; the empty cars could be brought forward on that terrace and switched back on this, and could be fed right in continuously to the shovel, so that the cars would only have to be set at the shovels during the noon hours and the night and morning hours, and the shovels would never have to stop loading cars.

Senator MORGAN. The point I am trying to develop is just this—that as you go deeper into this cut, until you get to the bottom of the prism of the canal, you have to give up shovels on each side of the cut and reduce the number of working shovels, until finally you get down to four in the bottom of the canal?

Mr. WALLACE. No; not necessarily, Mr. Senator. For about three years your shovels will be put in in increasing numbers, because you will be developing new terraces. Then there will be several years that you can work the same number, and then you will work a decreasing number of shovels.

Senator MORGAN. Yes.

Mr. WALLACE. The essence of the whole matter is how to arrange that work so that you can work the greatest number of excavating units simultaneously at the fullest capacity per unit. In other words, if you can work ten shovels in each half mile and handle a thousand yards per shovel, you will make better progress than if you used forty shovels and were only getting 100 yards a day out of a shovel. So it is necessary to arrange your shovel plan so that your feed can be regularly and properly supplied to them, so that the operation will be continuous.

Senator MORGAN. Much has been said some time back, and even down almost to the present moment, about night work on the canal. Could you conduct night work on this shovel system?

Mr. WALLACE. I did not, but I could have conducted night work, and I think night work could be conducted more favorably on the Isthmus than it could be in the States.

Senator MORGAN. Why?

Mr. WALLACE. The temperature is more pleasant to work in there at night, and you can work the year round at night; and, properly lighted, there is no reason in the world why you can not work at night. At least, I know of none.

Senator MORGAN. I suppose you really mean to say that you can do night work better than you can do day work in that locality?

Mr. WALLACE. In that locality; but on the other hand, as I said a while ago, in the States I have never been able to get the same rate of efficiency out of night work that I have out of day work. One reason has been that the works have not been sufficiently lighted, and the laborers are more apt to shirk; they can get in the shadow and can not be watched as well as they can in the daytime.

Senator MORGAN. So far as I am concerned, I shall have to drop this interesting view of the subject. It is very interesting to me, because it is very instructive. It is something that I wanted information about, and I suppose the balance of the committee would like it; but I want to ask you some other questions and then let other gentlemen go into this matter.

You were first appointed chief engineer of the canal. That was your first appointment?

Mr. WALLACE. Yes, sir.

Senator MORGAN. What was the date of it?

Mr. WALLACE. June 1, 1904.

Senator MORGAN. When did you arrive on the Isthmus?

Mr. WALLACE. I arrived on the Isthmus in the latter part of June. I do not recollect the date.

Senator MORGAN. How long did you remain there before you came back to the States?

Mr. WALLACE. I came back in the latter part of August or the first of September. I do not remember the exact date.

Senator MORGAN. Were you appointed a Commissioner before you came back?

Mr. WALLACE. No, sir; I was appointed a Commissioner in the following spring.

Senator MORGAN. The following spring?

Mr. WALLACE. In April, 1905.

Senator MORGAN. Yes. You remained chief engineer, then, from June until April?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And then you were made a Commissioner?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Where were you when you were appointed a Commissioner?

Mr. WALLACE. I received my appointment in New York; that is, it was handed to me in New York, by Mr. Cromwell, after my arrival from the Isthmus.

Senator MORGAN. What was the object of your return to the United States at that time?

Mr. WALLACE. I was ordered here by the Secretary of War.

Senator MORGAN. For any particular purpose?

Mr. WALLACE. In order to assist in the reorganization of the Panama Railroad or for a general conference.

Senator MORGAN. The reorganization?

Mr. WALLACE. Yes. You know the members of the new Commission were made directors of the Panama Railroad. I was never told what the object was in my coming to the States. I was very busy at the time.

Senator MORGAN. Did you have any connection with the Panama Railroad before you were made a Commissioner?

Mr. WALLACE. None, except that they tried to appoint me general superintendent of it, and I declined.

Senator MORGAN. You declined?

Mr. WALLACE. Yes.

Senator MORGAN. And did not accept the duties of the office at all?

Mr. WALLACE. I performed the duties under protest, after receiving instructions from Admiral Walker to do so. As I set forth in my previous testimony, the notice of my appointment as general superintendent of the Panama Railroad came first from Mr. Cromwell.

Senator MORGAN. Your notice came from him?

Mr. WALLACE. My notice came that I was appointed. Then it came from Mr. Drake, the vice-president of the Panama Railroad; and as Admiral Walker, the chairman of the Isthmian Canal Commission, was

the only person to whom I was supposed to report, I naturally cabled him and asked him for instructions. That correspondence is all set forth in the testimony that I gave when I was before your committee the last time.

Senator MORGAN. The position of superintendent of the railroad, was tendered to you without your application?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And you declined it at first?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And who persuaded you to take it?

Mr. WALLACE. Admiral Walker practically told me that I could perform those duties temporarily. In declining it, in writing to Mr. Drake, I said that as somebody had to perform the duties I was willing to perform them, but I would do it under protest until the annual meeting of the stockholders and the board of directors, when, if they desired me to run the Panama Railroad, I wanted to be put in the office of general manager or vice-president.

The reason that I objected was this: No man can serve two masters; and if I should have taken that position as general superintendent, my line of report would have been through Mr. Drake, of the New York office, who was not a United States officer at all, and I would have been serving two masters. I would have had to go to a man as my source of authority that had never been on the Isthmus, and did not know anything about the Panama railroad except what he got from letters and cablegrams; and, more than that, I did not feel that there should be that divided responsibility. I mean, that I should not serve two masters.

Senator MORGAN. Is there any such office as general superintendent provided in the charter of the Panama Railroad Company?

Mr. WALLACE. I do not know.

Senator MORGAN. You never did know?

Mr. WALLACE. No.

Senator MORGAN. And do not know yet?

Mr. WALLACE. No.

Senator MORGAN. How long did you perform the functions or duties of general manager of that railroad?

Mr. WALLACE. Nominally from some time in April—I do not recollect the exact date of that reorganization—until about the 28th of June.

Senator MORGAN. You say “nominally.” Why do you use that word?

Mr. WALLACE. Simply because I did not get back on the Isthmus again, right in direct connection with the road, until in the latter part of May.

Senator MORGAN. Then you never have been in actual charge as general manager of this railway?

Mr. WALLACE. I was, yes; during that period.

Senator MORGAN. You had the actual charge of it?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Did you give your attention to it?

Mr. WALLACE. I gave it what attention I considered was necessary while I held that position, while I was there.

Senator MORGAN. You were not then a stockholder?

Mr. WALLACE. Yes, sir; I was.

Senator MORGAN. You had one share of stock?

Mr. WALLACE. I had one share of stock. Each one of us bought one share of stock and gave our check for it.

Senator MORGAN. Yes.

Mr. WALLACE. And then we gave the Secretary of War, I think it was, an option on that stock to buy it back again.

Senator MORGAN. Was that share of stock sold to you for the purpose of qualifying you as general superintendent?

Mr. WALLACE. No; as a director.

Senator MORGAN. As a director?

Mr. WALLACE. As a director; yes.

Senator MORGAN. But at the time of your appointment as general superintendent, or as general manager, rather, I will call it—I believe that is what you call it—you had no share of stock?

Mr. WALLACE. Yes, sir; I did. First we met in the New York office, and under the directions of the Secretary of War, Mr. Cromwell and, I think, Colonel Edwards, voted the stock and elected us directors. Then, after we were elected as directors by the stockholders, I was elected vice-president and general manager by the board of directors. That was the sequence.

Senator MORGAN. Oh, yes—all at the same time, in New York?

Mr. WALLACE. All at the same time, in New York.

Senator TALIAFERRO. From whom did you get your share of stock, Mr. Wallace?

Mr. WALLACE. I do not know where it came from. I gave my check to the Secretary of War.

Senator TALIAFERRO. Personally?

Mr. WALLACE. Personally. That is, it was made out to William Taft.

Senator TALIAFERRO. To whom did you deliver your check?

Mr. WALLACE. I delivered my check to Mr. Cromwell, I think.

Senator TALIAFERRO. Who delivered the stock to you?

Mr. WALLACE. The stock was never actually delivered to me. The stock was produced at that meeting, and then I reassigned that stock—I think I signed it in blank; I do not remember who it was assigned to—and gave the secretary an option to purchase that stock back from me. I think it was \$10 that he paid for the option. So that in the railroad offices at New York was retained the share of stock and the option, you understand.

Senator MORGAN. Did he pay you the \$10?

Mr. WALLACE. They paid me the \$10; yes, sir.

Senator MORGAN. That is all you ever got out of it?

Mr. WALLACE. That is all I ever got out of it. My check came back, though, all right, indorsed; that is, I found it.

Senator MORGAN. Who was the most prominent and most active person in having you, then, forced into office, first as a director and afterwards as general manager?

Mr. WALLACE. That was all understood; that was talked over at Washington before we went over to New York.

Senator MORGAN. Talked over by whom and with whom?

Mr. WALLACE. It was talked over by the secretary and the chairman and Magoon and I—that is, as to how we should reorganize this railroad company.

Senator MORGAN. Was that before you came up from the Isthmus?

Mr. WALLACE. No; that was after I came up here, in April, and I said I wanted the control of the railroad on the Isthmus. It was understood between us that Mr. Shonts would be put in as president and would handle the railroad and steamship line in this country, and that I would be made vice-president and general manager and would handle the railroad on the Isthmus.

Senator MORGAN. You never were made vice-president?

Mr. WALLACE. Yes; I was made vice-president.

Senator MORGAN. Vice-president—is that the same office you call general manager?

Mr. WALLACE. Vice-president and general manager.

Senator MORGAN. Yes. When did your term of office as Commissioner begin?

Mr. WALLACE. That was about the 1st of April—the first week of April.

Senator MORGAN. These transactions of making you vice-president and general manager and Commissioner were practically simultaneous?

Mr. WALLACE. No; that was a week or two afterwards.

Senator MORGAN. That you were made vice-president or general manager?

Mr. WALLACE. Yes. My commission as Commissioner was signed by the President, and Mr. Cromwell met me, when I came up from the Isthmus, in New York, and I was taken to his office and sworn in as a Commissioner and my commission given to me.

Senator TALIAFERRO. By Mr. Cromwell?

Mr. WALLACE. By Mr. Cromwell. Now, then, I was a day or two in New York, and when I came over to Washington we had our conference about what to do with the Panama Railroad. Then a little later we all went back to New York and reorganized this Panama Railroad by the new directors coming in and the old directors going out. That was a week or two weeks later, and I do not recollect how much time elapsed between those two transactions.

Senator MORGAN. Where were you when you were first informed that you were to be or had been made a Commissioner?

Mr. WALLACE. I got the first information that I had from Mr. Cromwell.

Senator MORGAN. Where?

Mr. WALLACE. In New York.

Senator MORGAN. You did not know that you would be made a Commissioner until you got to New York?

Mr. WALLACE. Yes; yes. The Secretary wired me on the Isthmus?

Senator MORGAN. How; by telegram?

Mr. WALLACE. By cable, and told me what the scheme was, and asked me what I thought of it.

Senator MORGAN. And part of the scheme was to appoint you Commissioner?

Mr. WALLACE. Yes—that the scheme was to appoint me Commissioner and put me on the executive committee.

Senator MORGAN. And also to make you general manager of the railroad?

Mr. WALLACE. No; nothing was said about the railroad at all. That all came afterwards.

Senator MORGAN. At that time that was all there was of it?

Mr. WALLACE. Yes.

Senator MORGAN. Had you ever made any application to be appointed a Commissioner?

Mr. WALLACE. No, not in that way, except in this way: When I had my first talk with Admiral Walker, at the start, I said to him: "Now, Admiral, I don't know how this thing is going to work out. You may not be able to carry out this arrangement; I may be dissatisfied down there, or you may be dissatisfied with me, or my health may not stand it, or a great many things may occur. Now," I said, "the majority of these Commissioners are men of considerable age, and there will undoubtedly be a vacancy in this Commission inside of the next year or two or three years:

"Now," I said, "I don't want you to pledge that you will recommend to the President to make me one of these Commissioners; but," I said, "if you could do so it would give me a chance after I got that work organized and started to come back to the States here and serve on the Commission; and I think the experience that I would get down there would make me a valuable member of it. But," I said, "I simply want to tell you what is in my mind. I do not want to ask you to commit yourself;" and the Admiral, as I understood him, said that he thought it would be a very good plan. That is the only conversation that I recollect I ever had about going on the Commission. That is, I mean, I never applied for it.

Senator MORGAN. And you never asked anybody to recommend you?

Mr. WALLACE. I do not think I ever did; at least I have not any recollection of it.

Senator TALIAFERRO. Did anyone ever tell you that they meant to recommend you?

Mr. WALLACE. I do not remember of any person telling me that they intended to recommend me. Of course there is this thing: I presumed after I got down there that that would be a logical step a little later on.

Senator MORGAN. I suppose, from the statements you have made, that you had in mind an expectation that after you had gotten the engineering work thoroughly under way you would prefer not to live in the Isthmus on account of your family; and you were looking forward then to falling back upon the position of a Commissioner, not required to live in the Isthmus, rather than to retain the position of chief engineer, who was required to live there? Was that the idea?

Mr. WALLACE. Yes; that was in my mind.

Senator MORGAN. Was it strongly in your mind?

Mr. WALLACE. Yes, sir; it was so strongly in my mind that that was why I had this preliminary conversation with Admiral Walker.

Now, what may have occurred is this: Different men may have at times said to me something like this: "Why, Wallace, you ought to be a Commissioner," or something of that kind, and I might have simply smiled and passed it off with some remarks. But I never made any effort to get on the Commission.

Senator MORGAN. After you were notified that you were going to be a Commissioner, you came to New York?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Soon after?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Within a few days—ten or fifteen days?

Mr. WALLACE. Yes.

Senator MORGAN. And then you met Mr. Cromwell, or Mr. Cromwell met you?

Mr. WALLACE. Yes, sir; he had his secretary meet me at the boat with a carriage, and he took me to his office where Mr. Cromwell was waiting for me.

Senator MORGAN. Who was his secretary?

Mr. WALLACE. I do not remember his name.

Senator MORGAN. When he met you, did he advise you at once to qualify as commissioner?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Was that after he had delivered to you your commission?

Mr. WALLACE. That was simultaneous.

Senator MORGAN. He brought the commission to you, signed by the President?

Mr. WALLACE. Yes; and they swore me in as Commissioner. I took the oath there.

Senator MORGAN. And it was administered in his office?

Mr. WALLACE. In his office; yes, sir.

Senator MORGAN. What reason did he assign to you for desiring that the oath should be administered at once?

Mr. WALLACE. He simply said that the Secretary desired that I be sworn in as soon as I landed. He said he did not know what business might come up in which it might be necessary for me to take action, and that they thought it would be better that I be sworn it at once.

Senator MORGAN. In your former examination you stated this, as I remember, that he said to you that he wanted you to be sworn in before you saw Shonts.

Mr. WALLACE. No, no; you misunderstood me. He said that Mr. Shonts was in the city, and Mr. Shonts and I might want to get together and transact business, and that the Secretary wanted me sworn in as soon as I landed.

Senator MORGAN. Did he make a point on that—that as soon as you landed you should be sworn in?

Mr. WALLACE. Well, it was immediately, and he had the carriage there waiting to take me to his office, although it was at night, and he seemed to attach a great deal of importance to having it done right away. I never questioned it at all. I understood that he maintained close confidential relations to the Secretary, and I presumed that he was carrying out the Secretary's will and instructions.

Senator MORGAN. Up to that time Mr. Cromwell had close, confidential relations with you, too, did he not?

Mr. WALLACE. Well, we were always friendly.

Senator MORGAN. Yes; up to that time?

Mr. WALLACE. Yes, sir; we have always been friendly since. We have had no—

Senator MORGAN. You have not fought each other?

Mr. WALLACE. We have not fought each other; no.

Senator TALIAFERRO. You knew Mr. Cromwell for some time before you took this position on the Isthmus?

Mr. WALLACE. I never met him until I met him when he appeared before the Commission to lay that bill of extras before it, in June, 1904.

Senator MORGAN. After you were appointed a Commissioner, you then came to Washington and participated in the reorganization of the Canal Commission?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Which of the old members had gone out?

Mr. WALLACE. All except Major Harrod. All of the old Commissioners were eliminated except Major Harrod, of New Orleans. He was retained on the new Commission, and he is there yet.

Senator MORGAN. Was he reappointed, or just retained?

Mr. WALLACE. I do not know. I suppose he was reappointed.

Senator MORGAN. Had the former Commission resigned?

Mr. WALLACE. I do not know about that, although they were not there in office when I came back.

Senator MORGAN. Was it the understanding that they had resigned?

Mr. WALLACE. I did not have any understanding about it, Senator. They were simply eliminated; I do not know how or why.

Senator MORGAN. Was any cause ever assigned during these interviews, in your hearing, for the unanimous resignation of the former Commission?

Mr. WALLACE. No; I never heard any particular cause.

Senator MORGAN. Do you know any reason for it now?

Mr. WALLACE. No, sir.

Senator MORGAN. Had there been any delinquency, within your knowledge—for you had worked there several months with them and under them as chief engineer—had there been any delinquency on the part of either of them so far as you knew?

Mr. WALLACE. The only criticism that I ever made, directly or indirectly, on that Commission, was the general criticism that you could not expect to get efficient executive action out of any body of seven men.

Senator MORGAN. It was too large?

Mr. WALLACE. It was too large.

Senator MORGAN. There were too many of them?

Mr. WALLACE. There were too many of them.

Senator MORGAN. Was it a case of too much talent or too much energy, or what was it?

Mr. WALLACE. There were too many differences of opinion, and the body was too cumbersome for an executive organization.

Senator MORGAN. But you went into a commission that contained the same number?

Mr. WALLACE. Yes.

Senator MORGAN. Was that too cumbersome? What is your opinion about it?

Mr. WALLACE. The impression created in my mind from the things that I heard was that in that new Commission the four members of it who were engineers were only to exercise what you might call advisory functions. In other words, there was an Executive order issued in connection with the organization of the new Commission, which is a matter of record, which practically placed the power in the hands of an executive committee of three. That committee was composed of Mr. Shonts and Judge Magoon and myself.

Senator MORGAN. Who was the fourth man that you have just mentioned?

Mr. WALLACE. The other four were the four engineers—that is, Major Harrod, General Ernst, General Hains, and Admiral Endicott. This order provided that the executive committee should meet twice a week on the Isthmus; and it was my understanding of that Executive order that each member of this executive committee had charge of a department in which he was to be practically supreme, and that the chairman had no power over any of us except so far as he had a vote to cast. Now, I hate to repeat conversations, because whenever I do that it brings up a question of veracity.

Senator MORGAN. Oh, well, those questions are up every day here. Mr. Cromwell has made them on you, and I want to see if you can get out of them.

Mr. WALLACE. When the Secretary cabled me the constitution of this Commission, the impression that his cablegram made on my mind was that Mr. Shonts's duty was to be confined to that of purchasing agent in the United States, and such routine work as was necessary to be performed here.

Senator MORGAN. Whose cablegram was that?

Mr. WALLACE. That was the Secretary of War's.

Senator MORGAN. Yes.

Mr. WALLACE. When I came up I found that the Executive order provided for a certain distribution of authority and specified that Mr. Shonts should spend half his time on the Isthmus and half in this country. Just before I went back I was notified by Mr. Shonts that the President, in order to induce him to take this chairmanship of the Commission, had practically promised him absolute dominating authority over us all. Now, those were not his exact words; but he first mentioned it to me in an easy, smiling way, and I did not really know what weight to put on it; and it was not until after I went back to the Isthmus that he commenced to give me instructions which would indicate that he intended to "run the job." Now, Senator—

Senator MORGAN. That is all in regard to the new Commission. I want to get back to the old one.

Senator KITTREDGE. You were about to add something, Mr. Wallace.

Mr. WALLACE. What I was going to add was this: That these personal matters are very unpleasant for me, and I am through with the whole thing now. I am simply a private citizen, like everyone else, and I hope you will not press me on anything of a personal nature any further than you consistently can. I am perfectly willing to come here and answer any questions that you wish and to help you in any way toward getting knowledge on this subject, but I do hope that you will not press me on these personal matters.

Senator TALIAFERRO. You have spoken, Mr. Wallace, of a conversation between Mr. Shonts and yourself.

Mr. WALLACE. Yes.

Senator TALIAFERRO. In which he intimated to you that he had been given a free hand in the management of the work. Did you understand from him that that part of the executive order which required that he should spend half of his time on the Isthmus had been abated or revoked?

Mr. WALLACE. No, I did not understand that. I understood that he practically would be allowed to run things to suit himself.

Senator TALIAFERRO. Including that?

Mr. WALLACE. That particular thing did not occur in connection with it.

Senator TALIAFERRO. He never spent his time there?

Mr. WALLACE. No, sir.

Senator MORGAN. I do not wish Mr. Wallace to bring up any matter at all that would have a tendency to involve him in any personal controversy with any person at all. But what transpired there was between public officials; and all of their dealings with each other of a material sort I think are necessary to be known by the committee, in order that we may know what recommendations to make to the Senate as to the future conduct of this canal.

Mr. WALLACE. I will answer your questions, of course, freely, Mr. Senator. The only thing is that I put myself on your mercy.

Senator MORGAN. Can you state any reason known to you, or any reason urged by superior authority or by any of the Commissioners, why the old Commission was removed, beyond the one that you have stated—that it was too large?

Mr. WALLACE. I do not know of any. Of course, there was all sorts of gossip going around in those days, but the impression seemed to be that the work was not effectively carried out because there were so many men on the Commission.

Senator MORGAN. I notice from the proceedings of that Commission which are recorded here that at every meeting they were all present, except while Mr. Barclay Parsons was excused because of some engagement he had in London, which had been provided for before his appointment; and they worked all through the summer there, the yellow-fever months, and all that sort of thing, day after day. They seem, from the minutes which I hold in my hand, to have done a vast amount of work, at least in the organization of the government of the Panama Zone, and providing for the future successful operations of the engineering and the supply departments, the labor department, the pay department, and all of the other departments, particularly the medical department. These records show a vast amount of work, and, as far as I have gone into the matter, very clear and proper work.

Do you recollect that any order or vote or resolution in regard to any matter contained in these proceedings here was ever revoked by the President?

Mr. WALLACE. I never heard of any; no, sir; and I never heard any criticism on the ability or on the singleness of purpose of any member of that Commission, individually.

Senator MORGAN. Or their industry?

Mr. WALLACE. Or their industry.

Senator MORGAN. Or their staying at their posts and working under unpleasant conditions—unpleasant physical conditions, I mean?

Mr. WALLACE. I never heard of any criticism of that kind; no, sir.

Senator MORGAN. Every one of these orders and reports was submitted to the Secretary of War?

Mr. WALLACE. I do not know as to that. I presume they were, because they were official.

Senator MORGAN. That was required to be done?

Mr. WALLACE. Yes.

Senator MORGAN. This book shows that they were.

Mr. WALLACE. I have no knowledge of that. I was on the Isthmus and they were here, of course.

Senator MORGAN. The first Isthmian Canal Commission (the Walker commission of construction I will call it; there had been a previous Walker commission, but that was one of exploration, and then after we bought the property the commission of construction was appointed) entered upon its duties with nobody present of the commissioners except General Davis, who was the governor of the Canal Zone. He was the only man that was there at first, and then he was soon joined by Mr. Hecker, and others came in afterwards.

Prior to Davis taking hold there as governor and undertaking to establish a government and to get the United States in possession, to accomplish or to begin to accomplish its great task of digging this canal, the reports inform us that no laws prevailed there except the laws of Colombia; that the Panama Canal Company and the railroad company, which were separate organizations, had no right to pass any police regulation or any law or resolution of a governing character, but they were subordinate entirely to the laws of Colombia, and some of the laws of the State of Panama, which was then a State of the Republic of Colombia, and that that system had to be entirely abandoned and a new system substituted for it.

In the situation in which that work was at the time Davis took hold of it as governor, was it not a really herculean task to frame all of these statutes, to make all of these provisions for the inaugurating of any kind of work there, and for getting labor and for getting material, and for cleaning up the debris of the Panama Canal Company? Was it not a very heavy task?

Mr. WALLACE. Yes, it was; and, personally, I have never thought that the Walker commission received anything like the recognition that it should for the service it rendered, particularly General Davis.

Senator MORGAN. Yes. Now, during the operations of that Commission were you aware of any general public complaint as to the work that they were conducting there—of the manner of their conducting it or the diligence and skill and wisdom with which they projected and conducted the work there—on the Isthmus in trying to inaugurate a system of government and a system of labor?

Mr. WALLACE. I never heard any criticism on it. The only criticism was something that was due to an impatient desire, of course, upon the part of everyone to see things move a little faster.

Senator MORGAN. To "make the dirt fly?"

Mr. WALLACE. To "make the dirt fly." Of course my criticism was not directed so much at the Commission as it was at the method. I could not get any material, and I could not get anything furnished for me—I mean in the way that I thought I ought to have it; but that was not due to any want of effort upon the part of the individual members of the Commission.

Senator MORGAN. They did all that they could?

Mr. WALLACE. They seemingly did all that they could.

Senator MORGAN. And they stayed there and did their work?

Mr. WALLACE. Yes, sir; that is, they were down there for about—

Senator MORGAN. And they were all able men?

Mr. WALLACE. They were all able men.

Senator MORGAN. And devoted to duty?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Can you give the committee an idea of the situation of that canal at the time this property and this Zone were turned over to the possession of the United States—the situation in which the French left the canal?

Mr. WALLACE. As far as the situation was concerned, it was simply that it was a jungle.

Senator MORGAN. Chaos.

Mr. WALLACE. Just simply chaos from one end of the Isthmus to the other, and grown up with a jungle, except the small amount of work on which four or five hundred men were employed at Culebra, and they were doing all their work there by hand.

Senator MORGAN. They did not even have any of these little French scoops or shovels?

Mr. WALLACE. No; they were doing their work entirely by hand.

Senator MORGAN. Entirely by hand?

Mr. WALLACE. Yes; hand drilling and everything else.

Senator MORGAN. How many hundred years would it have taken them to have completed that canal with the force that they had on hand then, working by hand?

Mr. WALLACE. Oh, I suppose from two to three hundred.

Senator MORGAN. From two to three hundred years?

Mr. WALLACE. Yes, sir.

Senator MORGAN. I do not suppose that you consider that the work that they were doing there was being done with an earnest effort to complete the canal, or with an expectation that it could be completed at that rate of work?

Mr. WALLACE. Oh, no; that was utterly impossible. It seemed more like a case of their simply spending the least possible amount of money in order to retain possession of the franchise. That was the way that it impressed me.

Senator MORGAN. They were working just enough to keep Colombia from forfeiting the franchise?

Mr. WALLACE. That is the way it impressed me; yes.

Senator MORGAN. As to the machinery that you found there in the jungle and about in different places along the railroad track and along the canal work, what condition was that in?

Mr. WALLACE. The machinery that had not been issued to contractors, but was housed, was in first-rate condition. The machinery that had been issued to contractors and had been put in use was scattered in a heterogeneous mass all over that canal, and was out in the jungle, and was just as they had left it at the time they went into liquidation.

Senator MORGAN. There is a good deal of it that has not been discovered yet, is there not?

Mr. WALLACE. I presume there is.

Senator MORGAN. Is it not a fact that when they want to get certain descriptions of machinery down there that they are not immediately supplied with, they go out into the jungle and hunt it up?

Mr. WALLACE. Oh, that is frequently the case; yes, sir.

Senator MORGAN. That was frequently the case?

Mr. WALLACE. Yes.

Senator MORGAN. Like a man hunting a venison down with a pack of dogs?

Mr. WALLACE. Yes; they had a complete record of everything they had on hand.

Senator MORGAN. They had it on paper?

Mr. WALLACE. It was all on paper; yes.

Senator MORGAN. But it was out in the woods?

Mr. WALLACE. It was out in the woods. But the material in their storehouses was admirably arranged and was well taken care of.

Senator MORGAN. The part of it that was under the control of the railway was pretty well managed, was it not?

Mr. WALLACE. Yes. While I think the railroad's policy was radically wrong, the carrying out of that policy, as far as the maintenance and operation of the railroad on the Isthmus was concerned, was admirably done. That is, Colonel Shaler, the general superintendent, and Mr. Prescott, the assistant superintendent, and the staff under them did the very best they could with the facilities they had at hand.

Senator MORGAN. Now, Mr. Wallace, at the time this first commission of construction, the Walker commission, took charge there, was it possible to prepare that commission for proper work such as the American Government expects to do inside of a period of two years?

Mr. WALLACE. In my first conference with the commission after I was appointed chief engineer I asked for two years in which to make preparatory arrangements; and I thought then, and I think now, that two years was little enough.

Senator MORGAN. It has proved to be too little, has it not?

Mr. WALLACE. Yes.

Senator MORGAN. Very much too little?

Mr. WALLACE. Yes; little enough to get things together and build up an organization and get a good start at the real work in a real way.

Senator MORGAN. Under both Davis and Magoon, and also under Shonts, have not the officers of the Government who have been on the Isthmus, practically engaged in the work there, employed all possible diligence, in your opinion, to clean up this mass of waste and chaparral, or whatever it is? Have not these officers, all that have been there, dutifully employed themselves in strenuous efforts to accomplish this task of cleaning up?

Mr. WALLACE. I think they have; but, of course, since I left there the only means I have of judging is what I have seen in the newspapers, and what I have seen in the testimony before this committee.

Senator MORGAN. Leaving out of view, now, all the reports, was it your observation, as long as you stayed on the Isthmus there, that both the Commissions, the first one and the second one, did, through the men who remained on the Isthmus and devoted themselves to work, all that could practically be done in cleaning up and making preparation for the real work of digging the canal?

Mr. WALLACE. I think so; yes.

Senator MORGAN. You know of no criticism upon their operations that would show any suspicion of delinquency on the part of any of them?

Mr. WALLACE. From such knowledge as I have I do not know of any; no.

Senator MORGAN. When the new organization took place, and its labors were divided up in the manner in which you have indicated, and which is shown upon these records, was there any additional spur put into the work greater than had been employed before under the first

Walker Commission? Was there any greater success in the operations after the new Commission got in than there was before, during the time that you remained there?

Mr. WALLACE. Well, the furnishing of materials was slightly expedited, and I looked upon the new organization as an improvement of the old organization.

Senator MORGAN. As an organization?

Mr. WALLACE. As an organization.

Senator MORGAN. I am speaking of the execution of it.

Mr. WALLACE. The time was so short and was so interlaced with what had been done before that it would be a very difficult matter to tell.

Senator MORGAN. Did you have to undo anything, or anything of importance, that the first Commission had done?

Mr. WALLACE. Nothing of any importance. The work was in expediting the getting of material down there and things of that sort.

Senator MORGAN. Yes. Did that first Commission do any work or have any work done there that had to be thrown away?

Mr. WALLACE. Not an item that I know of.

Senator MORGAN. Not an item that you know of?

Mr. WALLACE. No, sir.

Senator MORGAN. There is some story going around that in your work there as chief engineer you had fixed your dumps at places where they would hereafter have to be removed. Is that true?

Mr. WALLACE. That is not true, and Mr. Stevens, the present chief engineer, in his examination went on record as saying that it is not true.

Senator MORGAN. So that no work has been done in vain there, so far as you know?

Mr. WALLACE. Not a dollar's worth, as far as I know.

Senator MORGAN. And, so far as you know, an observance of duty and diligence and earnest interest in the work have been manifested and exhibited by all who were concerned in that work in the higher ranks of office?

Mr. WALLACE. I think so.

Senator MORGAN. In the new organization there appear here to have been a great many appointments made. They were made by the heads of these departments into which the work was divided. There was one grand division in the separation into departments; one consisted of four engineers and the other consisted of three men, who formed an executive committee. The four engineers appear to have had charge of all the subjects connected with engineering proper and the conduct of the engineering work. Is that right?

Mr. WALLACE. No, sir; they were not supposed to have any direction, up to the time that I left, over the engineering work on the Isthmus.

Senator MORGAN. Who had it?

Mr. WALLACE. That is, I mean except so far as their votes went at the quarterly meetings of the Commission on such questions as might be submitted to them by the executive committee.

Senator MORGAN. By the executive committee?

Mr. WALLACE. By the executive committee; yes, sir.

Senator MORGAN. So that engineering work had first to undergo the approval of the executive committee?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And then that had to undergo the criticism and approval or disapproval of the quarterly meetings of the full board?

Mr. WALLACE. Yes; that is the way I understand it.

Senator MORGAN. During that period and up to the date of and more particularly after the reorganization there was this very long list of appointments to office?

Mr. WALLACE. Yes, sir.

Senator MORGAN. These men that were appointed assembled there on the Isthmus?

Mr. WALLACE. I only know of those in whose appointment I was instrumental.

Senator MORGAN. Yes.

Mr. WALLACE. I do not know anything about anything that has occurred since I left there.

Senator MORGAN. I know; not since you left there, but while you were there, these men were assembling to fill the places given them under each of these chiefs of departments?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Corresponding in some sense to the heads of departments here in the Government?

Mr. WALLACE. Yes, sir.

Senator MORGAN. The appointments were made by the heads of the departments?

Mr. WALLACE. Yes, sir.

Senator MORGAN. But the Commission, as a body, had the right to overrule and strike out any that they did not approve of. They ratified and confirmed them, every one of them, by resolution?

Mr. WALLACE. Yes, sir.

Senator MORGAN. With perhaps one or two exceptions. Did not that produce a very sudden and great influx of gold men upon the Isthmus?

Mr. WALLACE. The increase in the gold men, I think, was more rapid after the 1st of April than it was before. I have not at hand the list, but there are records that show exactly how many came down each month.

Senator MORGAN. And they came down there without any preparation of an important character having been made for their accommodation in the way of houses?

Mr. WALLACE. No, sir. I never saw any white men that came to the Isthmus at the time I was there that were not just as well or better provided for than they would have been if they had gone out on a piece of railroad work in the United States. Of course this was true: There were not buildings or accommodations enough to take care of the men the way the men would like to be taken care of that intended to bring their families and stay ten years on a piece of work—that is very true; but the men that came down there were comfortably housed, and while they had to put up with some inconvenience, as I said before, the inconveniences were not as great as they would have had to put up with if they had gone out into Iowa or Illinois on the construction of a new railroad line in this country.*

Senator MORGAN. Those accommodations had been provided for them by the repair of houses and the building of houses by the first Walker commission?

Mr. WALLACE. Yes, sir.

Senator MORGAN. They had made all that preliminary preparation?

Mr. WALLACE. Yes, sir; and we had built two hotels. I do not think any large hotels have been built since. I have not heard of any. But at the time I left there the large hotel at Corozal and the large hotel at Culebra were in actual service.

Senator MORGAN. Yes.

Mr. WALLACE. And other buildings were being put up just as fast as the material could arrive on the Isthmus to put them up. My recollection is that we had a force of about 1,700 or 1,800 men whose sole duty was the repair and erection of houses for the rest of the men to live in.

Senator MORGAN. There was also a very rapid influx of labor into the Zone?

Mr. WALLACE. It has been increasing right along. From the 1st of July, 1904, until the 1st of July, 1905, my recollection is that between 9,000 and 10,000 men arrived on the Isthmus.

Senator MORGAN. Silver men?

Mr. WALLACE. Silver and gold, altogether.

Senator MORGAN. So that influx was comparatively very rapid?

Mr. WALLACE. Some of them returned. I do not remember how many were actually on the rolls.

Senator MORGAN. Of course, providing food and quarters for those men was an embarrassing and difficult proposition?

Mr. WALLACE. It was.

Senator MORGAN. In the meantime, what interest had the first Walker commission bestowed upon sanitation? Had they been very active in trying to provide for the sanitation of the Isthmus?

Mr. WALLACE. The sanitation of the Isthmus was put under the control of Colonel Gorgas, and that went on, I understand, in a continuous manner from the time I went down there in June, 1904—we went down on the same boat together—up to the time that I left there. He was going right along with his organization regularly, and he had an organization of his own engaged in draining the swamps and in various sanitary operations.

Senator MORGAN. Had the first Walker commission participated in the preparations necessary for the sanitation of the Isthmus?

Mr. WALLACE. That was the source of authority—the first Walker Commission—up to the 1st of April.

Senator MORGAN. That was the first great point to be attained?

Mr. WALLACE. Yes, sir.

Senator MORGAN. To produce a reasonable degree of health in the Isthmus?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Who was present besides the Commission in the planning of this reorganization?

Mr. WALLACE. The railroad organization?

Senator MORGAN. I mean the reorganization of the railroad and the canal.

Mr. WALLACE. I only recollect one conversation in regard to the organization of the railroad, and the Secretary and Mr. Shonts and Mr. Magoon and myself had that conference.

Senator MORGAN. That was after you were made a Commissioner?

Mr. WALLACE. That was after I was made a Commissioner.

Senator MORGAN. And before you returned to the Isthmus?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Who was assisting in arranging this new organization?

Mr. WALLACE. I always understood that the whole scheme, the organization, was discussed by Mr. Cromwell and the Secretary and was practically worked out by Mr. Cromwell, but that is simply hearsay. I was not here at that time.

Senator MORGAN. Was he engaged there as an employed counsel, or employed agent to do that work, or was he doing it pro bono publico?

Mr. WALLACE. I do not know. His only official position that I knew of was his position as general counsel for the Panama Railroad, and he wrote up the resolutions and attended all the meetings of the executive committee of the railroad and board of directors of the railroad, and seemed to direct its affairs entirely, as far as the records were concerned.

Senator TALIAFERRO. Was he not a railroad director at that time?

Mr. WALLACE. Yes, sir. He was a member of the new board of the Panama Railroad.

Senator MORGAN. During that time of the reorganization, or before that time or after that time, as long as communications were open between you and Mr. Cromwell, did you have any knowledge of a claim that he presented as the counsel of the New Panama Canal Company against the Government of the United States amounting to more than two millions of dollars?

Mr. WALLACE. Yes, sir.

Senator MORGAN. A claim of two million and two or three hundred thousand dollars for the work that had been done by the French company after their first proposition to sell to the United States and up to the time of the turning over? Did you hear about it?

Mr. WALLACE. Yes, sir; I was present when he presented that to the Walker Commission to pass on as to the facts contained in it, and that matter is a record of the second Walker Commission. It is spread on their records.

Senator MORGAN. Yes; I have it all here. That claim was first brought before the first Walker Commission?

Mr. WALLACE. The first thing I knew about it was when I was present at a meeting of that Commission, when Mr. Cromwell and another lawyer and Mr. Choron, the chief engineer of the New Panama Canal Company, and an interpreter came before the Walker Commission, in June, 1904, and stated that the President had been asked to arbitrate that claim, and that the question of law had been referred to the Attorney-General and the question of fact had been referred to the Isthmian Canal Commission, and Mr. Cromwell and these men were here to present these facts for the Isthmian Canal Commission to pass upon as to their reliability—I mean as to what were facts and what were not facts—and ready to offer any explanation of their figures that they desired to ask the gentlemen that were present, naming his colleagues.

Senator MORGAN. Did the Commission have any order from the President of the United States that they should perform the duty as arbitrators for settling the fact in regard to the claim?

Mr. WALLACE. They were not to act as arbitrators. Mr. Cromwell stated that the President was to act as an arbitrator and that the Com-

mission was to pass on the facts, the Attorney-General on the law, and then the President would take the question up and pass on the equity. That was what I understood was Mr. Cromwell's statement that he verbally made before the Isthmian Canal Commission when he presented these papers to them.

Senator MORGAN. You were then chief engineer, but you were not a Commissioner?

Mr. WALLACE. I was not a Commissioner, but I just happened to be present at the interview.

Senator MORGAN. Had Cromwell talked to you about it?

Mr. WALLACE. No, sir.

Senator MORGAN. He had never explained it to you?

Mr. WALLACE. No, sir. That was the first time I ever met him.

Senator MORGAN. What was this other lawyer's name that was there?

Mr. WALLACE. I do not remember.

Senator MORGAN. Was he an American or a Spaniard?

Mr. WALLACE. He was an American.

Senator MORGAN. Was he named Curtis?

Mr. WALLACE. I think that was his name. He was a square-jawed man, a little younger than Mr. Cromwell.

Senator MORGAN. Was he a tall, slender man?

Mr. WALLACE. I do not remember his description. He was sitting at the table when I saw him.

Senator MORGAN. Was Mr. Farnham there at that time?

Mr. WALLACE. He was not at the meeting.

Senator MORGAN. He was on the Isthmus?

Mr. WALLACE. No, sir; I do not know where he was. He was not at the meeting.

Senator MORGAN. Did Mr. Cromwell lay before that Commission any orders of the President or directions of the President that they should find the facts in regard to this matter?

Mr. WALLACE. I do not know.

Senator MORGAN. You saw no such paper?

Mr. WALLACE. I saw no such paper.

Senator MORGAN. And no such paper, within your knowledge, has ever been put upon record?

Mr. WALLACE. No, sir.

Senator MORGAN. It was Cromwell's statement?

Mr. WALLACE. That is as I recollect it. There might have been a letter.

Senator MORGAN. Of course. We want your recollection. We know it is honest, and we just want that. So he appeared before that Commission and informed them that the President had authorized them to find the facts?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And that the Attorney-General was to ascertain the law and the President was to determine the equity of the claim?

Mr. WALLACE. Yes, sir; that is the way I understand it.

Senator MORGAN. Was the claim earnestly pressed?

Mr. WALLACE. Well, rather.

Senator MORGAN. Did Mr. Cromwell make a statement about it?

Mr. WALLACE. Yes, sir; he made quite an extended statement in regard to it, and he seemed to be very anxious that it should be given attention in the near future.

Senator MORGAN. In what way did the old Commission receive that proposition?

Mr. WALLACE. I would have to go behind the motives in their bosoms to tell you that. They did not seem to be very enthusiastic over it.

Senator MORGAN. Did they seem opposed to it or to question it?

Mr. WALLACE. That was the impression it created on me, listening to the presentation and hearing their discussion of it.

Senator MORGAN. Did they question it severely, like a judge on the bench?

Mr. WALLACE. There was a great deal of comment made, but the matter was explained to them that it was not for them to criticise its equity; that their function was to determine whether this money had been spent or not, and that that was all that they were to do, although the impression that was created on my mind was that they were, most of them, disposed to criticise the equity of the claim.

Senator MORGAN. Was the claim afterwards presented, within your knowledge, to the old Commission?

Mr. WALLACE. To the new Commission?

Senator MORGAN. The old Commission, the first Walker Commission.

Mr. WALLACE. This was the construction Walker Commission that I am talking about.

Senator MORGAN. I know. Was it afterwards, within your knowledge, presented to that Commission?

Mr. WALLACE. Again?

Senator MORGAN. Yes.

Mr. WALLACE. I never heard of it after that.

Senator MORGAN. Until you got on the new Commission. You heard of it then, did you not?

Mr. WALLACE. I never heard of it then.

Senator MORGAN. The records show that it was very much discussed by the new Commission.

Mr. WALLACE. Yes.

Senator MORGAN. That claim is still pending.

Mr. WALLACE. I do not know anything about it. That is, except since that date.

Senator MORGAN. And it was after that that Mr. Cromwell took a very decided interest in your being made a commissioner?

Mr. WALLACE. Well, I do not know that he did.

Senator MORGAN. The correspondence that he had presented to this committee, a letter written by you to him, and also an extract from a letter of a confidential character that Mr. Shonts submitted to him would show that your relations were very confidential, so much so that one of your letters Mr. Cromwell characterized as being fulsome. You have read all of his testimony?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And he spoke of being ashamed to present it on that account?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Taking his description of his relations to you as he gave them in his testimony, all of which you have read, and taking

your knowledge of your relations to him, did he give a fair account of your relations?

Mr. WALLACE. Not from my standpoint.

Senator MORGAN. Your standpoint is the one we want. You are the only man in the world that knows about it.

Mr. WALLACE. My personal relations with Mr. Cromwell were very friendly.

Senator MORGAN. Yes.

Mr. WALLACE. But I would have to go into quite a long explanation as to why I wrote that letter that would involve a great many things, and that is one of the reasons why I did not want to be asked about it.

Senator MORGAN. I have only asked you what he has put upon the record. I have not gone into anything else, and you are entirely at liberty to state or not to state anything beyond that by way of explanation as you may choose.

Mr. WALLACE. The last night before I sailed I was a guest at Mr. Cromwell's house. There were quite a number there—the members of the Commission were there as guests—and Mr. Cromwell pressed on me some of his views, and he did it in a way that I took very strong exceptions to, not due to the nature of what he said, because the ideas that he gave me were perfectly proper in themselves, but I took it as an interference with my conduct of my business, and we had rather an animated discussion over it; that is, so warm on my part and I felt so keenly over it that I felt as if I had rather exceeded the bounds of propriety.

Senator MORGAN. In your reply to him?

Mr. WALLACE. In my reply to him; yes. And I did not want to incur his ill will, particularly at that time. I wanted to keep on good terms with everybody, as far as I consistently could. So I made up my mind that I ought to in some way try to smooth this over. So, just as soon as I got back to the Isthmus again, where I had time enough to write, I wrote him that letter, in order to make things just as smooth between us as I possibly could.

Senator MORGAN. In that conversation at his house before you sailed—it was the night before you sailed, was it?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And Mrs. Wallace was with you?

Mr. WALLACE. No, sir.

Senator MORGAN. Did she not go to the Isthmus with you, then?

Mr. WALLACE. Yes; but there were no ladies at this dinner except Mrs. Cromwell.

Senator MORGAN. On that night, if I understand you correctly, Mr. Cromwell undertook to give you advice that you interpreted even as instructions in regard to your business?

Mr. WALLACE. Yes, sir.

Senator MORGAN. As chief engineer of the Commission?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And you resented it?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And you did it in such words as to lead you to think afterwards that perhaps you had abused his hospitality?

Mr. WALLACE. Yes, sir.

Senator MORGAN. And when you got to the Isthmus you wrote that letter that he styled fulsome?

Mr. WALLACE. Yes, sir.

Senator MORGAN. For the purpose of preventing him from considering that you had made any personal attack upon him, and to let him understand that you wished to "let bygones be bygones" between you, as I understand it? Is that the fact?

Mr. WALLACE. Yes, sir.

Senator MORGAN. That is the situation?

Mr. WALLACE. Yes, sir.

Senator MORGAN. So that he never mentioned to you, after you were a Commissioner, this \$2,250,000 claim?

Mr. WALLACE. No, sir.

Senator MORGAN. Do you know of his ever having mentioned it to anybody else?

Mr. WALLACE. No, sir.

Senator MORGAN. You have heard no Commissioner say that he had presented it to them?

Mr. WALLACE. No, sir. I might have heard that, but I have no recollection of it.

Senator MORGAN. He is still pressing that claim, so far as you know?

Mr. WALLACE. I have absolutely no knowledge on the subject.

Senator MORGAN. Do you know of any facts, Mr. Wallace, that you think indicate an interference on the part of Mr. Cromwell for the purpose of getting rid of the old Commission or any members of the old Commission?

Mr. WALLACE. I was on the Isthmus during that time.

Senator MORGAN. Yes.

Mr. WALLACE. And anything of that kind that would have been done, of course, would have been confined to the United States; and I had no knowledge of his doing anything of that kind, although I have an impression that some of the Commission themselves thought there might be something in that.

Senator MORGAN. That was it. Some of the Commissioners at the time, in trying to account for the fact of their removal, associated his efforts with the fact of their removal?

Mr. WALLACE. That is the impression I received. I am not able to say, or to give you positive details of how I acquired it; but that was the impression that I had.

Senator MORGAN. You would not have known anything about it unless it had been discussed in your presence, would you?

Mr. WALLACE. I presume not.

Senator MORGAN. Do you recall what were the subjects that were presented to you in an unpleasant way at that dinner the night before you left, by Mr. Cromwell?

Mr. WALLACE. I do not remember exactly. I think it had something to do with my organization. I think he was rather impressing on me the employment of more high-priced men than I had.

Senator MORGAN. Higher priced men?

Mr. WALLACE. Yes.

Senator MORGAN. Did he name anybody?

Mr. WALLACE. He did not give any special names of anyone. It did not get that far along.

Senator MORGAN. You did not understand to whom he referred?

Mr. WALLACE. No; he was particularly desirous that I should get a deputy chief engineer that would be able to handle that work in case anything should happen to me.

Senator MORGAN. He insisted on higher prices?

Mr. WALLACE. Well, I do not remember that the term "high-priced" was used, but it was high-class men that he was urging, and the securing of what we call a duplicate organization. I already, at that time, had Mr. Dauchy, who had been chief engineer of the Rock Island system, who I thought was a very capable man, and I had employed Mr. Maltby, who was a very capable man, and I had been hunting all over the United States for a first-class man to fill a position next to me.

I did not believe it was necessary to explain to Mr. Cromwell what my ideas were, or what I had been doing, because I did not consider it any of his business. I was actually working along the lines that he had suggested; but the impression that he made on me was that he thought I was not competent to think of doing anything in this line unless he suggested it; and that it was his idea that I had neglected that part of the work, and that I should be punched up about it, and that that was what he was trying to do.

Senator MORGAN. Did he undertake to advise you about any other matter connected with your business?

Mr. WALLACE. That thing we discussed at some length, and the conversation was quite long. I do not recollect the details of it now.

Senator MORGAN. But it was a general admonition or advice to you in regard to how you should conduct your business?

Mr. WALLACE. It was principally in the line of getting more men in the higher positions.

Senator MORGAN. Did he say anything about having been instrumental in having your appointment as Commissioner made?

Mr. WALLACE. I do not remember whether he did at that time or not.

Senator MORGAN. Did he at any time?

Mr. WALLACE. Well, my impression is that he did, but I could not—

Senator MORGAN. He claimed the credit to himself of having had you appointed?

Mr. WALLACE. My impression is that he did, but I do not remember exactly.

Senator MORGAN. Was that offensive to you?

Mr. WALLACE. Yes; in a way it was; but those were the things that I generally took with a smile, that part of it. Mr. Cromwell and I, from the very first, to use a slang expression, were always rather disposed to "jolly" each other.

Senator MORGAN. You have looked very carefully over his testimony as he gave it here?

Mr. WALLACE. I have read it; yes.

Senator MORGAN. You have read and studied, I suppose, the account that he gives of what transpired at the time that Mr. Taft came up from Washington to hear your statement as to your purpose of resigning as chief engineer and also as Commissioner; you have seen all of his statements?

Mr. WALLACE. Yes, sir.

Senator MORGAN. Have you any change to make in the statement that you made before this committee the first time in regard to those matters?

Mr. WALLACE. I have no change to make in the statements that I made before this committee originally, and I want to say right now that while Mr. Cromwell may have misunderstood my language, I tried my very best to impress upon him that that interview should be a personal and private interview; and he even went to the extent of telling me that if I thought the Manhattan Hotel was not private enough he would arrange for it at his own house and let the Secretary and me be there alone. Mr. Cromwell, to my mind, thoroughly understood that he was not to be at that interview, and he started to leave the room as my son did, who accompanied me into the room, and to leave the Secretary and me there alone, when the Secretary called him back and told him that he wanted him to remain through the interview, and Mr. Cromwell sat down.

Senator MORGAN. Do you know of any occasion or interest for the secretary to have a witness present at that conversation with you?

Mr. WALLACE. I know of no reason why.

Senator MORGAN. You had no suspicion that he desired to have some one to verify what you said?

Mr. WALLACE. No, sir; not until that moment.

Senator MORGAN. And you regarded Mr. Cromwell, then, as an intruder?

Mr. WALLACE. I most certainly did.

Senator MORGAN. I think I will not ask any more questions.

Senator KITTREDGE. There is one more question that I wish to ask regarding the type of canal: As I understand your statement regarding the sea-level proposition, Mr. Wallace, there are connected with it no unusual, untried, or doubtful problems?

Mr. WALLACE. There are none whatever, Mr. Senator. It is simply a plain case of digging a ditch of large dimensions. While that ditch is larger than any ditch we have ever dug before in this world, there are no elements of uncertainty about it except those that go with a job a little larger than what we have done before. The same principles are involved and the same methods can be used.

The amount of excavation to be made there is so great that it permits a great many economies that would not be possible in a smaller piece of work. For instance, a cent a yard on that work will pay for all the steam shovels you have got to buy for it. Six or seven cents a yard will pay for all your engines and cars and almost the entire plant that you have to buy new. That is, the fact that the work is so large and that it will extend over about the life of the machinery that is put into it makes it a very economical proposition from the standpoint of the installation of a plant for it.

The CHAIRMAN. I think, in your previous testimony, you stated that your belief was that all the work, practically, should be done at the Isthmus, and not in Washington. Am I correct in that?

Mr. WALLACE. Yes, sir.

The CHAIRMAN. Do you think that there should be a very small force here, or a large force here?

Mr. WALLACE. I do not believe that you need any more force in Washington than may be necessary to keep such records as the Presi-

dent and his Cabinet and Congress may desire for their record, and the Treasury Department.

The CHAIRMAN. You think, perhaps, then, that the force that is here in the city now should be transferred to the Isthmus? Is that your idea?

Mr. WALLACE. All of it that is necessary for the work. In other words, that the organization down there should be as complete and as separate from the United States as your government in the Philippines—more so, if possible. In other words, the nearer you can handle that work the way a large contractor would handle it the more efficient the results will be. What we do need is such supervision over that construction as that you may get a canal there so wide and so deep located along a certain line as soon as possible and have the work done as well as possible.

The CHAIRMAN. It would be necessary for that supervision to be there on the Isthmus and not here?

Mr. WALLACE. Yes; that supervision should be on the Isthmus, and should not be in Washington.

Senator KITTREDGE. Suppose that Congress should decide to construct a sea-level canal from the Atlantic to Obispo, and from the Pacific to Miraflores, with a width of 300 feet, would its construction materially extend the time of doing the work?

Mr. WALLACE. No, sir; it would increase the cost, but it would not extend the time, because that additional work would not last longer than it would take to cut through the continental divide. It could all be done inside of the period that you are taking out your central excavation.

The CHAIRMAN. I believe there are no other Senators that desire to ask you any questions, Mr. Wallace.

Mr. WALLACE. There are one or two suggestions that I would like to volunteer, if you will permit me to do so.

The CHAIRMAN. We shall be very glad to hear them, Mr. Wallace.

Mr. WALLACE. One is with regard to the rate on the Panama Railroad.

In the testimony of one of the witnesses—I think the president of the Panama Railroad—he said that the cost of handling freight across the Isthmus was \$3.10 a ton. That is 47 to 50 miles, and that is over 6 cents a ton a mile. I want to say to you gentlemen that that is the strongest argument that could be made before you for the proper equipment of the Panama Railroad with modern appliances. One-tenth of that amount—that is, six-tenths of a cent a ton a mile—represents the gross revenue of a great many of the railroads in the United States, out of which they have to pay their maintenance, their fixed charges, and everything else; and the fact that it costs \$3.10, or 6 cents a ton a mile, to handle freight across the Isthmus simply shows that that railroad is from twenty-five to forty years behind the times.

The engines that were there when I was there, when they were double headed, only hauled 171 tons over that divide at Culebra, a grade of about 1½ per cent. The new engines which we bought about that time—24 of them—were drawn up on specifications which should enable two of them to handle 1,000 tons over that hill. That thousand tons could be handled for the same cost, as far as transportation is concerned, as the 171 tons could be before, except that they would take a little additional coal; but they would not take any more supervision,

and there would be no other additional expense connected with it. In other words, if you make this 171 tons 200 tons, the expense of transportation on the Isthmus up to the time those new engines were put into service would be just about one-fifth of what it would be if it was equipped with modern cars and modern engines.

Senator TALIAFERRO. You mean five times as much, do you not?

Mr. WALLACE. Yes, sir. If you provide proper facilities for loading and the proper wharves so that you can handle that business properly you can make money at \$2 a ton flat. It is true that when I say \$2 a ton flat, without classification, I do not mean that the freight that passes through the canal will not be classified, because all through bills of freight will be classified in accordance with the custom of the steamship line or the route over which it sails. But what I mean to say is that you get as near as you can with a railroad a condition which will be similar to what you will get when the canal is built.

When the canal is built you will charge on the tonnage of the vessels; that is, it will be a flat rate as far as the stuff in any one vessel is concerned. The nearer the vessel is full the lower the rate will be per ton for the stuff that is actually carried in the vessel, as your canal rate will be either the Danube measurement or the English, or, say, net registered tonnage, or something like that; but it will have the effect of a flat rate. Any flat rate you put on that business over the railroad—the lower the better—will have a proportionate effect on the rates through this canal, although those through rates may in themselves be classified rates. But so far as that part of the transit across the Isthmus is concerned you are approaching the same condition of affairs, in a measure, that you will have when you get your canal completed. That is simply a point I wanted to clear up.

Just before I go, there is another thing that I would like to say to you, and that is this: That I do not think that you can overappreciate the importance of the effect of protecting our future trade by heading off the possible development of that route by way of Tehuantepec. It goes without saying that it is much easier to hold a line of traffic than it is to get it away from somebody else after they get it once. I do not think that there are very many people that appreciate what the Tehuantepec route means if they get it established once. A low rate now at Panama and the demonstration to the shipping world that you can handle their stuff there, and handle it promptly and satisfactorily, is going to keep the business that you have got and is going to increase it very rapidly.

Another point: Of course it goes without saying that some time will elapse after the canal is completed before you will get enough revenue out of the tolls to pay your interest and to pay your expense of maintenance and operation. But the increase in that business will be gradual year by year, and every year you can advance the consummation of that condition you lose that much less money. If you commence to carry that business there now, and develop your railroad to its limit in the first place, and make the rate low, and it takes ten years to build the canal, the time when the canal will pay for itself will be just ten years nearer to you. In other words, you can afford to operate the Panama Railroad at a loss of one or two or three or even five hundred thousand or a million dollars a year in order to build up that business, rather than to wait until the canal is done and then attempt to do it by the canal itself, after you have absolutely ruined that route

as a transportation line, because then your loss may be five or six or seven or eight or ten millions of dollars a year if you have not got the business for your canal.

The CHAIRMAN. Your idea is to hold on to the present business and get what you can?

Mr. WALLACE; Yes, sir; and to get all that you can, just the same as if I was operating it for a private corporation.

The distance from New York to Hongkong by way of the Tehauntepec Railway is 1,351 miles nearer than by the way of Panama. Freights are worth on an average of \$1 a ton for a thousand miles. That means that the Tehauntepec route would be \$1.35 plus the rate over the railroad which, say, might be \$2 or \$3 a ton—granting it is about \$3 now—which would make \$4.35 a ton. Any less sum than that could be charged by the Tehauntepec Railroad, and make money out of it, and also save about five days in time.

The distance from New York to San Francisco by that line is about 1,200 miles shorter than by way of Panama. There you have \$1.20, plus the toll across the Isthmus of \$3, or whatever it will be, and the saving in time of about four or five days. That holds good all through here—I mean in varying proportions—but they have an advantage. That is partly, of course, compensated by the fact that they have 175 miles to haul that stuff, and it will cost them the same to handle their stuff on the wharves that it does at Panama and Colon, and it will cost them about three times as much to handle it over the railroad. And there is a reverse advantage to us in that fact, which we can overcome by a low flat charge at Panama now, if we fix it up, and we can keep that business for a less loss than we can ever get it back again.

I have some data here about these rates that I would be perfectly willing to leave for your record.

The CHAIRMAN. We should be glad to have them.

Mr. WALLACE. Also I have a short paper here that shows the various ways of working out canal dues, etc., and some other notes that I had as a memorandum. I shall leave them with you, as they express some of the things that I have said in better language than I have expressed them in my verbal examination.

The CHAIRMAN. We shall be glad to have those put in the record. We appreciate your coming, Mr. Wallace, and will excuse you now so that you may catch your train if you desire.

(The committee thereupon adjourned until to-morrow, March 21, 1906, at 2.30 o'clock p. m.)

(The following papers, submitted by Mr. Wallace, are printed by order of the committee.)

THE GATUN DAM.

There is no reason to believe that the weight of the Gatun dam will compress the permeable strata which exists in the Chagres Valley in the gorge 250 feet deep. While mud and ordinary clay compress under weight the witness knows no case where a permeable strata of freely water-bearing material, fully saturated, has ever been cut off by a weight imposed on a surface 250 feet above it, as is the situation at Gatun.

The fact that water now freely flows in some of these bottom stratas at a very great depth below the surface should be a sufficient answer to this question; also the fact that large streams of subterranean water frequently exists, freely flowing in large quantities in stratas of gravel and sand at great depths, in which it is supposed the weight above it would compress it.

In my own experience I have found indurated clay in the bed of the Missouri River, and underneath it I have found loose gravel, bowlders, and sand of a freely water-bearing nature, and this clay has been so hard that it has weighed as high as 120 pounds to the cubic foot; as compared with the indurated clay at Gatun it would be called rock.

As the strains on masonry dams are the subject of more or less mathematical determination, taken in connection with the experience of centuries in their construction, the assurance of their permanency is beyond question.

It is utterly impossible to make a mathematical demonstration as to the permanency of earthen dams, and the fact that a dam of earth in one locality constructed on an alluvial foundation with a freely water-bearing material underneath has stood for a few years is no evidence that an earthen dam situated in another locality on a foundation of this character will stand, as it is utterly impossible to compare the foundation conditions of the two dams, and any opinion on this point is purely a matter of conjecture.

The difference in the character of the foundations of the Gatun dam is such that there is some question as to an unequal settlement of the material of which the dam is composed; and if any part of the material should be compressed as predicted by the report of the Consulting Engineers, cracks would develop which might allow the water to permeate.

BASIS FOR MR. STEARNS'S TESTIMONY.

As I read Mr. Stearns's testimony he bases his main argument in favor of the Gatun dam on an earthen dam recently built under his control in the United States where there is no evidence that exactly the same conditions exist as at Gatun, and which dam has not yet been subject to the pressure or strains which will exist at Gatun, and which dam may properly be considered not as a demonstrated but as an experimental proposition. If the dam mentioned by Mr. Stearns had stood for one hundred years and the character of the material for the same depth was exactly similar to that of the Gatun dam, it might be possible to cite it as an argument in favor of the Gatun dam, but even then it would be of doubtful significance.

SLOPES OF THE GATUN DAM.

The slope at which it is proposed to construct the dam is liable to rapid disintegration from frequent wash on account of the heavy rainfall at that locality unless it is protected in some way.

On account of the heavy rainfall it is a most unfavorable location for the construction of earthen dams, as the material is likely to become supersaturated and be subject to surface washing, sloughing, and disintegration.

LABORATORY TESTS.

All laboratory tests regarding the filtration of water through sand or gravel, to my mind, are utterly valueless in the treatment of a question of this kind, as there can be no reasonable parallel in the conditions. It is not a question of the dam itself holding back this water, but the free flow of water in the impervious strata which is known to exist in these gorges, which it is proposed to leave at this great depth under the foundations of this dam.

THE GATUN LOCKS.

One of the great dangers of locks, particularly when three are placed in flights, is that they require continuous construction of concrete walls for approximately a mile in length and the material must be of such a uniform, homogeneous nature as to prevent unequal settlement of the locks. If the material is different in character the result would be disastrous, and this is immensely intensified by the extreme length of the large masses of concrete which would be necessary in their construction.

TIDAL LOCKS.

The necessity for tidal locks has not been demonstrated, but has simply been agreed to by the Board of Consulting Engineers as a matter of precaution as they have not been able to make any mathematical demonstration of the effect of currents of a free entrance. While I am not prepared to say that at certain stages of the tide it would not be advantageous to have locks, I have not yet been convinced in my own mind of their absolute necessity, and I have yet to see any calculations which demonstrate that they would be.

MAINTENANCE AND OPERATION.

I think the estimates for the maintenance of the sea-level canal are entirely too high. The amount of sediment brought into the canal depends upon the area of the surface washed and the amount of rainfall which finds its way directly into the canal, and this can be taken care of by diversion channels. The mere fact that so many million cubic yards of dirt have been excavated does not of itself increase the amount of sediment. The various benches can be properly treated and the water can be taken out laterally and turned into diversion channels or turned into basins which will take it out of the canal entirely.

PANAMA RAILROAD RATES.

Referring to Mr. Shonts's testimony that it costs \$3.10 to handle freight across the Isthmus. This means 6 cents per ton per mile, and this fact itself is the strongest argument that can be made for providing the railroad with proper facilities and operating it in a proper manner. If this is done there is no reason why the rate can not be reduced to an average flat rate of \$2 per ton without loss of revenue.

USE OF RAILROAD TO DIVERT COMMERCE TO PANAMA ROUTE.

It is generally admitted that during the first years of canal operation the revenue will not be sufficient to pay the operating expenses and the interest on the cost of construction, even on a 2 per cent basis. For a few years this country will be expected to carry a losing investment with the hope of large gains later on. The increase will of course be gradual, year by year, as commerce is induced to use the Panama route.

The full development of the Panama Railroad will assist in causing the more rapid approach of the time when the revenues derived from the traffic through the canal will carry the investment. Consequently, if proper facilities are provided and a low flat rate established, an increase in commerce will begin at once. Even if the facilities provided at this rate make a small loss from year to year in the operation of the railroad, if it advanced to the extent of a single year the time when the canal will pay the interest on the cost of construction and its maintenance and operating expenses, the great gain will more than make up for any slight loss of revenue in the railroad in the meantime.

CANAL DUES.

[Prepared by E. L. Corthell, C. E.]

Assuming the ordinary steamship and the ordinary rules for ascertaining net register, and considering the relations between net register tonnage and "dead weight" tonnage, one being on a basis of 100 cubic feet per ton and the other on 67 cubic feet per ton (this being the average space occupied by a ton of freight), we would have for, say, a 5,000 net register ton freight steamer the following tonnages, weights, etc. It must be borne in mind that there are several kinds of tons and tonnages:

1. "Gross register tonnage," which is all the inclosed space of the vessel, and each 100 cubic feet of this gross space is a ton.
2. "Net register tonnage," which is the cargo and passenger carrying capacity of the vessel, each ton being 100 cubic feet.
3. "Dead weight tonnage," which is the whole net register space divided by 67 cubic feet for each ton, this being considered the average space occupied by average ton of freight.
4. "The charter ton," or freight ton, being 40 cubic feet.
5. "The displacement ton" equals 2,240 pounds; in metric system the weight of 1 cubic meter of distilled water equals 2,204 pounds. This is the only weight ton.

We have then for the relations and figures of the 5,000 net register ton vessel the following:

Calling load displacement	Unity.
Gross register tonnage	57
Net register tonnage	38
Weight of hull and motive power	44
Weight of cargo	56
Therefore—	
When the net register tonnage	5,000
Gross register tonnage equals	7,400
Load displacement	13,000-2,240
Weight of hull and motive power	5,700-2,240
Weight of cargo	7,300-2,240

Assuming the rate of \$2 per net register ton for transit dues, the cargo carried will pay only \$1.36 per ton of 2,240 pounds.

SUEZ CANAL.

[Prepared by E. L. Corthell, C. E.]

Gross tonnage passing through the Suez Canal last year was 18,000,000 tons, and the net Danube measurement was 13,000,000 tons at 7½ francs per ton, or about \$1.50.

The capitalization of the Suez Canal, including betterments, is now about \$125,000,000, and it is understood that the canal now pays for itself every four years on the present basis of earnings.

Table of comparative distances in statute miles.

	Total distance.	Excess over Tehuantepec route.
	<i>Miles.</i>	<i>Miles.</i>
From New York to Hongkong:		
Via Cape Horn.....	20,379	8,777
Cape of Good Hope.....	16,945	5,343
Suez Canal.....	13,596	1,994
Panama Railroad.....	12,953	1,351
Isthmus of Tehuantepec.....	11,602	
New York to Yokohama:		
Cape Horn.....	19,802	9,796
Cape of Good Hope.....	18,085	8,079
Suez Canal.....	15,527	5,521
Panama Railroad.....	11,256	1,250
Isthmus of Tehuantepec.....	10,006	
New York to Auckland, New Zealand:		
Suez Canal.....	16,871	7,447
Cape of Good Hope.....	16,719	7,295
Cape Horn.....	13,890	4,466
Panama Railroad.....	10,305	881
Isthmus of Tehuantepec.....	9,424	
New York to Melbourne:		
Cape Horn.....	15,215	4,150
Suez Canal.....	15,171	4,106
Cape of Good Hope.....	16,019	3,954
Panama Railroad.....	11,826	761
Isthmus of Tehuantepec.....	11,065	
New York to Honolulu:		
Cape Horn.....	15,826	9,163
Panama Railroad.....	7,939	1,276
Isthmus of Tehuantepec.....	6,663	
New York to San Francisco:		
Cape Horn.....	15,687	10,797
Panama Railroad.....	6,063	1,173
Isthmus of Tehuantepec.....	4,890	
Liverpool to Hongkong:		
Cape Horn.....	20,606	5,353
Panama Railroad.....	16,471	1,218
Cape of Good Hope.....	15,722	469
Isthmus of Tehuantepec.....	15,253	
Liverpool to Yokohama:		
Cape Horn.....	19,400	5,945
Cape of Good Hope.....	17,653	4,198
Panama Railroad.....	14,540	1,085
Isthmus of Tehuantepec.....	13,455	
Liverpool to Auckland, New Zealand:		
Cape of Good Hope.....	16,221	3,412
Suez Canal.....	14,645	1,836
Cape Horn.....	13,897	1,088
Panama Railroad.....	13,312	503
Isthmus of Tehuantepec.....	12,809	
Liverpool to San Francisco:		
Cape Horn.....	16,552	8,250
Panama Railroad.....	8,885	609
Isthmus of Tehuantepec.....	8,276	
New Orleans to Hongkong:		
Cape Horn.....	20,804	10,531
Cape of Good Hope.....	17,485	7,212
Suez Canal.....	15,108	4,835
Panama Railroad.....	12,308	2,035
Isthmus of Tehuantepec.....	10,273	
New Orleans to Yokohama:		
Cape Horn.....	20,227	11,590
Cape of Good Hope.....	18,625	9,988
Suez Canal.....	17,039	8,402
Panama Railroad.....	10,611	1,974
Isthmus of Tehuantepec.....	8,637	

Table of comparative distances in statute miles—Continued.

	Total distance.	Excess over Tehuantepec route.
New Orleans to Auckland, New Zealand:	<i>Miles.</i>	<i>Miles.</i>
Suez Canal.....	18,381	10,286
Cape of Good Hope.....	17,259	9,164
Cape Horn.....	14,314	6,219
Panama Railroad.....	9,659	1,564
Isthmus of Tehuantepec.....	8,096	.....
New Orleans to Melbourne:		
Suez Canal.....	16,683	6,947
Cape Horn.....	15,640	5,904
Cape of Good Hope.....	15,560	5,824
Panama Railroad.....	11,181	1,445
Isthmus of Tehuantepec.....	9,736	.....
New Orleans to Honolulu:		
Cape Horn.....	16,251	10,917
Panama Railroad.....	7,294	1,960
Isthmus of Tehuantepec.....	5,334	.....
New Orleans to San Francisco:		
Cape Horn.....	16,112	12,551
Panama Railroad.....	5,418	1,857
Isthmus of Tehuantepec.....	3,561	.....

In considering the saving in the value of distances by either the Panama Railroad or the Tehuantepec route it is reasonable to take 250 miles a day as the average rate of speed of a cargo steamer and the average rate of ocean freight as approximately a dollar a ton in weight for each 1,000 miles.

ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Monday, March 26, 1906.

The committee met at 2 o'clock p. m. (only an executive session having been held on Wednesday last).

Present: Senators Millard (chairman), Kittredge, Dryden, Knox, Ankeny, Morgan, and Taliaferro.

STATEMENT OF COL. OSWALD H. ERNST, U. S. ARMY.

The CHAIRMAN. General Ernst, will you be kind enough to give the stenographer your name and rank?

Colonel ERNST. O. H. Ernst; colonel, Engineer Corps, U. S. Army.

The CHAIRMAN. And your present position?

Colonel ERNST. I am now a member of the Isthmian Canal Commission.

The CHAIRMAN. When were you appointed a member of the Commission?

Colonel ERNST. I was appointed a member of this Commission on the 1st of April last.

The CHAIRMAN. You have been an engineer in the Army for a good while?

Colonel ERNST. Yes, sir; I graduated at West Point in 1864, and have served in the Corps of Engineers ever since—forty-two years.

The CHAIRMAN. Now, Colonel, we would like to have you, as a member of the Commission and an army engineer, give us your experiences upon the Isthmus and your judgment in regard to the work which is going on there at the present time. You have been on the Isthmus, as I understand it, a good many times?

Colonel ERNST. Yes, sir. The last time I was there was in October, and I found things in a very favorable situation. The temper was excellent; the tone of the force employed there was first-rate. The men in charge seemed to me to be earnest and capable. They were getting supplies with reasonable promptness, and I felt very much encouraged.

The CHAIRMAN. When were you there previous to that time, and how long were you there?

Colonel ERNST. I was there in July, also, of this last year.

The CHAIRMAN. Were you ever there prior to July?

Colonel ERNST. I was there in 1899—the spring of 1899 and 1900.

The CHAIRMAN. When the French company was in charge of the work?

Colonel ERNST. Yes, sir.

The CHAIRMAN. Now, Colonel, we want your best information in regard to matters as they exist there, and particularly in regard to the two plans of canal that have been submitted.

Colonel ERNST. I have made a very careful review of all the arguments presented on both sides as exhibited in these two reports which you have before you—the majority and the minority reports—and I am satisfied that the United States will get a perfectly satisfactory canal in very much less time and for very much less money under the plan proposed by the minority. I believe that the canal under that plan will cost little more than half what the canal of the majority will cost, and the time will be a little more than half, and when done it will be a better canal, because it will be three times as big a canal. The volume of water in the sea-level canal is only one-third what the volume of water is in this lock canal. Leave out everything in those lakes beyond the width of 1,000 feet and everything beyond a depth of 45 feet and you have three times the number of cubic yards of water in the lock canal that you have in the sea-level canal.

If we could eliminate the locks it would be a fair statement to say that the lock canal offers three times the facilities for navigation that the sea-level canal does.

Senator KITTREDGE. Just a minute, Colonel. What about the canal going through the Culebra cut? Do you say that the canal going through that cut offers three times the facilities for navigation?

Senator KNOX. He is speaking of it as an entirety.

Colonel ERNST. I am speaking of it as an entirety—as a waterway.

Senator KITTREDGE. Right there, is not the capacity of your canal limited by the maximum capacity in any particular part?

Colonel ERNST. No, sir.

Senator KITTREDGE. By the maximum capacity in the Culebra cut, for instance?

Colonel ERNST. No, sir. The size of vessels is limited, but not the capacity of the canal. The capacity of the canal varies with the facilities.

Senator KITTREDGE. Is not the capacity of your canal limited by the capacity of your locks?

Colonel ERNST. Oh, yes; not the capacity of the canal, necessarily, but the size of the ships.

Senator KITTREDGE. Is not the capacity of your canal for usable purposes limited by the capacity of your locks?

Colonel ERNST. It depends a good deal, Senator, on what we mean by "capacity."

Senator KITTREDGE. I mean the number of ships that can pass through.

Colonel ERNST. Yes. Now, what I say is that the capacity of a waterway which is 1,000 feet wide for a large part of its distance and 45 feet deep or more is greater than the capacity of a canal which is only 200 feet wide or 150 feet wide and 40 feet deep, notwithstanding that one can not take any bigger vessels than the other. I mean the facilities, the ease with which they can get through and pass each other.

Senator KITTREDGE. You mean, then, to make that statement upon the basis of eliminating the locks and eliminating the narrow passage through the Culebra Cut?

Colonel ERNST. I was going on to say that these are to counterbalance each other. One canal is three times as big as the other; but the one has these locks, which are an objection on the other side.

Senator KNOX. You mean that the area of the waterway in the lock canal is three times as great as the area of the waterway in the sea-level canal in its entirety? Is not that what you mean?

Colonel ERNST. Yes; only not area, but volume—cubic volume.

Senator KNOX. Volume?

Colonel ERNST. Yes; that is what I say. That is one of my reasons for thinking that it is a safer waterway.

Senator TALIAFERRO. But in connection with the inquiry of Senator Kittredge, you can not get any more vessels through that larger waterway than you can get through your narrow locks or your narrow cut through Culebra?

Colonel ERNST. They all have to go through the locks, of course; but what I mean to say is that you get greater speed.

Senator TALIAFERRO. After they get through?

Colonel ERNST. Yes; except they are detained at these isolated points. When they are elsewhere, for the rest of the 47 miles, they have a free, open waterway where they can go at much greater speed and with much less risk of collisions or groundings, or anything of that kind.

The CHAIRMAN. Now, Colonel, if you are ready, be kind enough to proceed.

Colonel ERNST. The plan as it was laid out by the minority has straight courses. You can guide a vessel through submerged banks very much better in a canal with straight courses than you can where they are all curved. They make their changes all at one place; they run along a straight course and then make a change and then run along another straight course. That has been found a very great advantage in the channels between the Great Lakes.

Senator MORGAN. When making the changes that you speak of, Colonel, do they have to stop the ship?

Colonel ERNST. No, sir; they just slow up at the curves. Instead of keeping on a turn all the time, they run straight up to the angle, and there the channel is widened out.

Senator MORGAN. It is practically a stopping of the ship, is it not? It is a slowing up?

Colonel ERNST. It is a slowing up.

Senator MORGAN. You slow up when you reach certain points, and then you take a new course?

Colonel ERNST. Yes.

Senator MORGAN. And steer for that?

Colonel ERNST. Yes.

Senator DRYDEN. Do you remember how many of those angles there are in the lock canal?

Colonel ERNST. I do not remember, but we can easily count them. They are all exhibited here. Shall I count them?

Senator DRYDEN. If you please, yes; and in counting them kindly point them out on the map.

(Colonel Ernst thereupon pointed out on the map the locations of the angles referred to and stated that there were nineteen of them.)

Senator DRYDEN. That is about one to every 2 miles?

Colonel ERNST. Yes, sir.

Senator DRYDEN. Just a little less than one every 2 miles on an average. The point you make upon that is that these are well-defined angles, and that the ship can make greater progress by turning the angles, even if at slow speed, and then having a straightaway course, say, for 2 miles, than it could by going around the curves that exist in the sea-level scheme. Is that it, Colonel?

Colonel ERNST. Yes, sir; that is it. They are much more easily marked.

Senator DRYDEN. Do you know how many of those curves there are in the sea-level scheme?

Colonel ERNST. It is stated in the report. I can find that for you. I do not recall.

Senator DRYDEN. You need not look it up.

Colonel ERNST. It is an almost continuous curvature.

The CHAIRMAN. Colonel, the dark covered book there has both reports in it, and everything connected with the reports of the Board.

Senator MORGAN. Giving the same depth and prism to the canal, there is no more difficulty in steering through a sea-level canal than through a lock canal, is there?

Colonel ERNST. Only for the reason that in one you have straight courses and in the other you have continuous curvature or almost continuous curvature.

Senator MORGAN. How do you get a straight course in the lock canal through the Culebra cut? The curves are just the same, are they not, in the lock canal and in the sea-level canal through the Culebra Heights?

Colonel ERNST. Not quite the same. In the lock-canal plan they have paid great attention to that feature, and in the other they have not. That is the difference. There is some slight difference in the Culebra cut. There need not be, however. It is not necessary that there should be, but as a matter of fact they paid no particular attention to that feature of having straight courses. They thought that if the curvature was gentle that was all that was necessary; but I regard having the courses absolutely straight as an advantage.

Senator MORGAN. It is practicable to make a straighter line with the lock canal through the Culebra Heights than it is with sea-level canal?

Colonel ERNST. No, sir; it is not.

Senator MORGAN. The line would have to be practically the same?

Colonel ERNST. Pretty nearly the same thing; and if you keep that in view, it is just as easy to make one as the other.

Senator KITTREDGE. You say "pretty nearly the same." In what respect, and where, are they at all different?

Colonel ERNST. Simply in laying down the lines on the map by the engineer; if he takes particular pains to get his lines straight, he will cut off a little more, perhaps, than he would otherwise.

I believe those cover the reasons why I prefer the minority plan. There have been one or two points raised in the evidence which has been before you, Mr. Chairman, which I would like to refer to, unless some one has other questions to ask.

The CHAIRMAN. You may proceed.

Colonel ERNST. On page 1760 of the evidence I read this—Mr. Parsons was on the stand. [Reading:]

"Senator KITTREDGE. Then, as I understand you, notwithstanding the statement in the minority report of the usable dimensions of this

lock as 900 feet by 95 feet, in the plan presented to us the usable dimensions are in fact 790 feet as to length?

"Mr. PARSONS. That is a fact.

"Senator KITTREDGE. By what width?

"Mr. PARSONS. Ninety-five feet.

"Senator KITTREDGE. Is it not possible to lengthen the entire lock structure so as to have a usable length of 900 feet?

"Mr. PARSONS. It is not possible to do that and still keep the three locks in flight.

"Senator KITTREDGE. Why is that?

"Mr. PARSONS. The topography of the ground (is such), falling off at both ends, that you could not get a longer structure in there."

Then, farther on down:

"There is a divide there, a ridge, with suitable material for foundations, rock or a very hard clay amounting almost to a rock, and at such reasonable depth as to be reached by the locks. But when you come to make the locks of a thousand feet each, with the space between the locks for the gates and the clearances between the locks, the ends of that structure would overhang the sides of this ridge so that the ends would not have a proper foundation. The ends would include, of course, the end gates at both ends, where it is most important that there should be a satisfactory foundation.

"The minority, therefore, decided not to use 1,000-foot locks. In other words, three members of the minority reversed themselves in their original decision of a thousand feet and dropped back to a 900-foot lock, so as to get in three locks of 900 feet each in this situation.

"Then, when an objection was made to the danger of locks in flight, they still further reduced it, as Mr. Bates has pointed out, by introducing the safety gates, the second set of gates, and by putting them inside of the 900-foot length.

"Senator KITTREDGE. And thereby reducing the usable length dimension to less than 800 feet?

"Mr. PARSONS. To something less than 800 feet."

The CHAIRMAN. That refers to the locks at Gatun, I presume?

Colonel ERNST. Yes, sir.

Now, as for the site, we have a cablegram from Mr. Stevens, which I believe is on file—

The CHAIRMAN. By the way, Colonel, right here I will hand you these cablegrams, and will ask you to look them over and comment on them, and then allow them to go into the record. This one appears to have been sent by Mr. Stevens to Mr. Shonts and the other is to the Secretary of War. If you will have the kindness to look those over and read them to the committee and then comment on them, I would like to have them in the record after you are through with them.

Colonel ERNST. Here is a telegram dated March 17 from the chief engineer on the Isthmus, Mr. Stevens.

The CHAIRMAN. I think you should read the other one first—the one to Mr. Stevens.

Colonel ERNST. The one from Mr. Shonts!

The CHAIRMAN. Yes. It seems to have been from Mr. Shonts to Mr. Stevens.

Colonel ERNST. Mr. Shonts, after this evidence was given, telegraphed this to Mr. Stevens:

Confidential.]

MARCH 16, 1906.

STEVENS, *Panama*:

Burr and Parsons testified in favor sea level and strongly against lock, asserting Gatun Hill not large enough to permit construction three locks in series with usable length exceeding 790 feet each, and proper foundation dam not attainable. Noble testified in favor of lock canal, but had no figures to refute statements about length Gatun Hill.

SHONTS.

MARCH 17, 1906.

SHONTS, *Washington*:

Cablegram of 16th received. I have just made careful personal examination exact site Gatun dam. There is ample length with perfect foundations for longer locks than reported by minority of board. Contradict Burr and Parsons on my authority, and say that if nature had intended triple locks there she could not have arranged matters better.

STEVENS.

The Secretary of War also telegraphed to Mr. Stevens, on the 18th of March, as follows:

MARCH 18, 1906.

STEVENS, *Panama*:

Would it not be wise for you to examine and measure Gatun Hill with reference to the question raised by Burr and Parsons? It ought to be done, if done at all, at once.

TAFT.

Reply, dated March 20, 1906:

ISTHMIAN, *Washington*:

Replying to Secretary Taft cable, 18th, I say limits in length required for twin triple locks, Gatun, 3,100 feet; in width 300 feet. Have fully developed by one hundred borings, 3,800 feet in length and 300 width, on exact site, perfect foundations, and can build two sets of three locks, each 1,150 feet long if necessary, and perhaps much longer. Conditions ideal for construction and permanency.

STEVENS.

Senator MORGAN. Is that two sets in flight, or three, that you mention?

Colonel ERNST. Three.

Senator MORGAN. Three in flight?

Colonel ERNST. Yes, sir; they are double, but there is a flight of three.

Senator KITTREDGE. What was the total length that he found there?

Colonel ERNST. He says enough to make——

Senator KITTREDGE. I mean the total length.

Colonel ERNST. He says enough to make three locks 1,150 feet long each.

Senator KITTREDGE. Does that mean that the aggregate length suitable for the lock structure is three times 1,150 feet?

Colonel ERNST. Yes, sir; that is what that means.

Senator MORGAN. Three times 1,150 feet?

Senator KITTREDGE. That means there is 3,450 feet there?

Colonel ERNST. Yes, sir; it means more than that. It means that there is that plus the space required for the structure outside of the locks themselves.

Senator KITTREDGE. That is what I was getting at.

Colonel ERNST. That is the way he describes it—that it is abundant to build locks 1,150 feet long or more, but of course you can not build a lock without giving the proper supports outside of the locks themselves.

It is stated here in the first place that they cut down their length from 1,000 to 900 feet because they did not have room. That shows that that was not the reason.

It is stated also that the 900 feet is short. Now, here is the original drawing filed with the Commission, which I brought up here so that you could see for yourselves. It covers four different studies. The only one which we are concerned with now is this one [indicating], which is the Gatun locks in flight of three. I have had a tracing taken of that part, but I thought I would bring the whole thing here so that you can see that this is the original drawing filed by that Consulting Board.

In describing a lock engineers have to use two lengths, one being the total length of the chamber, which they use in computing the volume of water that is required to fill it, but in that must be included room enough for the gates to swing. You can not put in a ship the total length of the chamber. So they have another length that they call the usable length, which is less.

Senator KITTREDGE. What is the difference between the two?

Colonel ERNST. What is the difference?

Senator KITTREDGE. Yes.

Colonel ERNST. In this case it is 55 feet.

Senator KITTREDGE. At each end?

Colonel ERNST. No, sir; the total length. The length here, between point posts, from quoin to quoin—perhaps the better expression would be “gateposts.”

Senator KITTREDGE. I understand what they are.

Colonel ERNST. The distance between the gateposts in this case is 955 feet. That is adjusted so as to give 900 feet clear, allowing for these gates to swing.

Senator KITTREDGE. Do you not have gates swinging at each end of your lock structure?

Colonel ERNST. Not swinging in the chamber; they are outside. They do not swing both ways, you know. Here is the chamber. The gates have to swing around into these recesses at that end [indicating]. They do the same thing at this end [indicating], but of course they do not interfere with the length of the lock chamber.

The distance from quoin to quoin—that is, between the gate posts—in this case is 955 feet in order to give 900 feet of usable length. It

is said that in that upper lock they have put this guard gate into that chamber and have encroached on it in that way. They have put it into the chamber, but they have not encroached on it.

Senator KITTREDGE. I wish you would tell us just why they have not made that encroachment.

Colonel ERNST. That is what I had this diagram made for. This [referring to diagram] is upstream. You see, the gates all point that way. This is upstream. In the case of a boat entering the lock upstream both these gates stand open. The boat comes down here to this gate and stops. This upper gate is then closed. Now you have got three gates closed. Then this gate is opened; the boat is pushed forward 80 feet—

Senator KITTREDGE. How pushed forward?

Colonel ERNST. By capstans, or whatever power is used for moving the boat. She is moved forward by her own power, or by some other power; probably by capstans.

Senator KITTREDGE. What distance?

Colonel ERNST. Eighty feet. This does encroach if you want to close all the gates at the same time; it does encroach 80 feet in that event. The distance here, between these two quoin posts, is 80 feet, but it does not prevent your putting through there a 900-foot boat and still having your summit level protected at all times by two or three gates; never less than two gates. The ship comes in here, and this gate is closed behind her. This one is open. She goes forward 80 feet and stops there.

Senator KITTREDGE. And stops, you say?

Colonel ERNST. And stops; yes. The difference is that it takes from seven to eight minutes longer for the ship to get through. That is the difference.

Senator KITTREDGE. After she stops, what happens?

Colonel ERNST. Then this other gate is closed.

Senator KITTREDGE. Which other gate?

Colonel ERNST. This second gate. Here are two gates.

Senator KITTREDGE. You mean by "the second gate," the safety gate?

Colonel ERNST. Well, we usually call the upper one the guard gate; but the second gate is closed, that gate [indicating] is closed, and there is the position [indicating]; and there are still two gates always protecting the upper level.

Senator KITTREDGE. If it does not interrupt you, I would like to know a little more about that situation. Your safety gates are in your upper lock; is that right?

Colonel ERNST. One is inside and one is outside.

Senator KITTREDGE. But they are connected with your upper-lock structure?

Colonel ERNST. Yes, sir; yes, sir.

Senator KITTREDGE. Now, where with reference to the structure are the safety gates? Describe it so that it will appear in the record.

Colonel ERNST. I do not think I understand that.

Senator KITTREDGE. Do you have safety gates at each end?

Colonel ERNST. Yes.

Senator KITTREDGE. Now, how far—

Colonel ERNST. Oh, I think I do understand you now. Ordinarily there would be simply one gate at each end. For the purposes of safety

an additional gate is put up, which we call guard gates or safety gates. One of those is put outside of this space which has been devoted, we will say, to a lock without safety gates. The other one is put inside. The distance which this is above that one is 80 feet.

Senator KITTREDGE. Do not say "this one above that one;" describe it so that we can put it into the record.

Colonel ERNST. The distance of the quoin post of the guard gate from the other gate is 80 feet; and it would encroach that much on the usable length of the lock if you had to keep all your gates closed at the same time.

Senator KITTREDGE. In other words, it would reduce the usable length to 820 feet? Is that it?

Colonel ERNST. That is it. Yes; exactly--if you had to close all your gates at the same time; but you do not have to do that.

Senator KITTREDGE. Suppose you put a ship 900 feet in length into that lock; describe exactly what would happen in putting that size of ship through that lock?

Colonel ERNST. Yes, sir; that is what I was trying to do. She comes in here, we will suppose; both the upstream gates are open; she enters the lock--

Senator KITTREDGE. From the upstream end?

Colonel ERNST. From the upstream end. She enters the lock until she reaches this gate [indicating].

Senator KITTREDGE. And at what distance is the gate you now point to from the upper end of the lock?

Colonel ERNST. From this point to this point [indicating] is 955 feet.

Senator KITTREDGE. At what distance from the gate?

Colonel ERNST. From that gate, the second gate, 820 feet; but those gates are open.

Senator KITTREDGE. I understand.

Colonel ERNST. The ship is sticking out through those gates, and after she has gotten here and come to a stop these gates are closed.

Senator TALIAFERRO. The outer gates are closed?

Colonel ERNST. The outer gates are closed. That leaves those gates and these gates [indicating] still to protect the summit level; and you are free to open that gate [indicating], which you do. The ship is then pushed forward 80 feet, and stops again. Then this gate [indicating] is closed, and that leaves the two up there [indicating] to protect the summit level, and you are free to open that gate, which you do, and the ship goes out.

Senator TALIAFERRO. What is the usable length of the lock with all the gates closed?

Colonel ERNST. Eight hundred and twenty feet.

Senator KNOX. What is the usable length with the gates open, which you say may be safely opened after the vessel goes in?

Colonel ERNST. Nine hundred feet.

Senator KNOX. So that is the maximum usable length?

Colonel ERNST. Yes, sir.

Senator KITTREDGE. What do you put those safety gates in there for?

Colonel ERNST. So that there would always be two gates to protect the summit level.

Senator TALIAFERRO. Under this arrangement there is only one when you close both gates in the rear, or at the entrance of the lock? When

you close both gates you have only one gate to protect that at the other end?

Colonel ERNST. Yes; but down here (the ship is supposed to come down, now, to this level) you have these two gates; you always have two.

Senator KITTREDGE. At which end?

Colonel ERNST. In this case, now, they are up there; when the ship is moved forward to this place, both are at that end [indicating]. First they are both at this end [indicating]; then one is at this end and one at this end, and then they are both at that end [indicating].

Senator TALIAFERRO. Which is the summit level end of the lock, Colonel?

Colonel ERNST. This, upstream [indicating].

Senator TALIAFERRO. You do not mean that you can put a 900-foot ship through that lock and have at all times those two upstream gates closed, do you?

Colonel ERNST. Not those two gates, no; we can have one of them closed—one there and one there [indicating].

Senator TALIAFERRO. Then it is a fact that you have not at all times your summit end of the lock protected by two gates when you are putting through a ship 900 feet long?

Colonel ERNST. Oh, yes; this gate is precisely on the same footing with that gate. They are all holding the same level of water. There is no difference in the level. We will suppose this lock to have been filled up to the level. There is not the slightest trouble about that; there are always at least two gates to protect the summit level.

Senator KNOX. But not always at the same end of the lock?

Colonel ERNST. But not always at the same end of the lock; that is it exactly.

Senator DRYDEN. You are speaking now, Colonel, of the locks as designed and recommended by the minority of the engineers. In that connection, how do you interpret these communications from Engineer Stevens as to the possibility of making longer locks there if it is deemed necessary and advisable?

Colonel ERNST. Well, there is a difference of opinion here, you know, about how long those locks ought to be.

Senator DRYDEN. Yes, but suppose it should be finally determined that locks longer than originally suggested should be made; that locks of 1,000 feet usable length should be put there. Do you understand Mr. Stevens to say that the formation of the mountain and the land is such that these locks can be made of such a length?

Colonel ERNST. I do; yes.

Senator DRYDEN. That is the point I wanted to get at.

Colonel ERNST. That is as I understand it.

Senator DRYDEN. And Mr. Stevens, you understand, states that from an actual examination of the land, the conditions there since these doubts were thrown upon the possibility of making locks of that length?

Colonel ERNST. Yes, sir.

Senator DRYDEN. With a view of ascertaining whether or not they should be made longer?

Colonel ERNST. Yes, sir; that is what I understand.

Of course this involves losing eight or ten minutes in going through, although it is a perfectly safe thing to do. You still have the usable length of 900 feet, with the two gates always protecting the summit

level. It would be possible to make this lock long enough to shut all the gates and still have 900 feet between them. There are some objections to that, but that is a possibility. The objections are that you want about the same cubic volume of water in one lock as in the other; and if you increase the length of this lock above that of the others, you ought to decrease the lift. That can be done and make the volume the same, with a greater length and less lift; but that has the objection that your gates are different. It is an advantage to have the gates all duplicates of each other. They sometimes get out of order, and it is a desirable thing to have them all duplicates; and it strikes me that this is the best arrangement they could make. But it is not so that they can not put a 900-foot boat through there with perfect safety—I mean, having two gates always to protect the summit level.

Senator DRYDEN. Do you know of any reason why, if it is thought necessary to make these locks longer, there should be any mechanical or structural difficulty about doing it?

Colonel ERNST. None in the world; none in the world. It is the easiest way to enlarge a lock that there is, to increase the length of the wall.

Senator DRYDEN. Could they be made longer with just as much safety as the length originally suggested?

Colonel ERNST. Absolutely; certainly.

Senator DRYDEN. And in facility of operation they could be operated as easily, could they?

Colonel ERNST. Yes, sir; just as easily.

Does any gentleman want any further explanation on that point?

The CHAIRMAN. Have you a statement there that you wish to read to the committee?

Colonel ERNST. No; I have no written statement, but there is another point in the evidence that I would like to allude to.

Senator DRYDEN. Before you pass to that, Colonel, it has been stated here that there is danger of these locks being smashed down and destroyed by the weight and operation of the vessels passing through. I would like to have your opinion upon that matter.

Colonel ERNST. I do not think there is any more danger of that, Senator, than there is in coming up in this elevator that we come up in every day to this committee room. There are people in the world, plenty of them, who would be afraid to come up on that elevator, and the engineers who have had the greatest familiarity with locks are those who are the most perfectly satisfied of the perfect safety of making these new locks, these large locks.

I have watched the Soo Canal for a good many years. I had general supervision of that district of country before coming here, and I am just as satisfied that those locks can be built as I am of anything else in the world. I have no doubt about it at all.

Senator KITTREDGE. What is the maximum lift at the Soo?

Colonel ERNST. The lift is about 20 feet.

Senator KITTREDGE. One lock?

Colonel ERNST. One lock, 20 feet lift; yes.

Senator KITTREDGE. Do you think that condition at the Soo is to be compared with the condition at these Gatun locks?

Colonel ERNST. Oh, yes. It is on a smaller scale. Oh, I think we should take our lessons from the Soo. I rely very greatly on the experience at the Soo. It is the best experience there is.

The navigation interests of the Great Lakes are enormous, the commerce is growing with marvelous rapidity. It is not afraid of those locks. They are clamoring now for deeper channels between the lakes. They want more than 21 feet, and when they get them they will want bigger locks; and they know that perfectly well. They are not afraid of them. The trade is growing enormously. Last year it beat all records.

Senator KITTREDGE. What was the tonnage capacity?

Colonel ERNST. About 45,000,000 tons went through the Soo canals, those three canals, of which this Poe lock takes much the greater part.

Senator KNOX. How does that compare with the Suez Canal?

Colonel ERNST. It is more than three times as much.

Senator KITTREDGE. In speaking about the tonnage passing through there, you mean through the British canal as well as ours?

Colonel ERNST. Yes. The British canal takes about 10 per cent.

Senator KITTREDGE. How much went through ours?

Colonel ERNST. Ours takes 90 per cent of it.

Senator KITTREDGE. Figured in tons, how much was it?

Colonel ERNST. A little over 40,000,000 tons. Ten per cent of 45,000,000 would be four and a half. About 40,000,000 tons went through our locks.

I do not know but that it is proper to call attention to the continuation of Mr. Parsons's testimony the next day, having referred to his evidence, to which I have just replied. After that evidence that I have quoted before, this is what he says the next day:

"I am not attacking the ability to construct those locks at all. I want to have that distinctly understood. But, at the same time, if the locks are built, when they are built they will be unsafe for operation, in my opinion, as I explained yesterday. In other words—I lay stress not upon the inability to construct the locks or the inability to make those locks 1,000 feet long, if necessary—I believe that the ground is probably there to build the locks on and that the locks can be built a thousand feet long, if it is necessary, but that if that is done you will still have locks that are unsafe to operate, on account of the locks being in series of three."

So that he toned down a little the evidence he gave; but I thought it was desirable to explain to the committee that that minority report said exactly what they intended to say, and they furnished plans for locks that could pass a boat 900 feet in length.

Senator KITTREDGE. If it is a convenient time I would like to have your views upon the lock structure from a military standpoint.

Colonel ERNST. Senator, I do not believe in making that canal a subject of the operations of war at all. I agree entirely that it is easier to destroy a lock with a stick of dynamite than it is anything else upon the canal. But I believe that both canals are utterly vulnerable, and that the best defense we have is to make them neutral and to put our citizens in charge of them.

Senator KITTREDGE. Suppose the canal had been in operation in 1898, and we had wanted to put the Oregon through—would you have prevented that ship from passing through?

Colonel ERNST. Oh, no; my idea of neutrality is that all vessels, men-of-war and commercial vessels, will go through just the same as if there was not any war. I believe that is correct.

Senator KITTREDGE. Would you have been in favor of permitting the ships of Spain to pass through there?

Colonel ERNST. If she would take the risk; but I know very well she would not. I know very well that no commander of a vessel would put his ship in that canal if the lock keepers, and the pilots, and everybody in charge of it were Americans, if his nation was at war with America.

Senator KITTREDGE. What do you mean by putting the canal upon a neutrality, then?

Colonel ERNST. I mean to give everybody the free use of it if they are not afraid to use it; but what I think is this: That a foreign commander would be simply afraid to use it, no matter what our Government might promise. We have men down there of all kinds, and somebody would be bound to sink his vessel for him.

Senator KITTREDGE. Do you consider this canal, when constructed, useless from the military standpoint.

Colonel ERNST. Oh, no; not at all. I think our people would use it. We would have our citizens there; that is the difference. If it were a neutral canal, with French citizens or Spanish citizens in charge of it, then it would not be of any use to us; but having our citizens in charge of it I think we could use it with safety.

Senator TALIAFERRO. You mean you would advertise neutrality, but operate the canal in such a way that people that were at war with this country would not go into it? [Laughter.]

Colonel ERNST. Well, I simply take human nature as I find it. That is what I believe would be the result. I would advertise neutrality, and keep it, too, as far as I was able to do it; but I know very well I could not do it. I know that even if we thought we could do it the foreigners would be suspicious of it and be afraid to use it. That is what I believe in the matter.

Senator MORGAN. Colonel, in this neutrality matter, if you were in command of a fleet or an army at Panama and the United States Government was at war with Great Britain or Germany, would you consider that under the laws of neutrality you were obliged to allow ships of war of Germany or of Great Britain to pass through that canal, knowing that they were going up to attack San Francisco, or the border up there?

Colonel ERNST. I suppose that is what neutrality would mean, would it not, Senator? You know much more about it than I do.

Senator MORGAN. I have not that view of it. I have always supposed that the nation that controls the channel, it not being a public, international channel, has the right to say, among nations that are belligerent with each other, but not belligerent with the United States, "You shall pass through here on equal terms; but when you open belligerency with the United States we will take our ground to fight you at the mouth of the canal, if it is necessary to do it."

Colonel ERNST. Yes—well, of course, I do not know how far the term "neutrality" would extend; but I think that no British commander would put his ship through there if our people had charge of the locks, if we were at war with Great Britain, no matter what we promised.

Senator MORGAN. And we would not put our ships there if we were at war with Panama, either; would we?

Colonel ERNST. No; I would not put my ship there, except in case of urgent necessity, if we were at war with anybody, no matter who it might be. I do not think that any captain would have his ship in there any longer than was absolutely necessary.

Shall I pass to the other point?

The CHAIRMAN. Yes, sir.

Colonel ERNST. On page 1496 Mr. Burr was testifying, and he makes this statement:

"In the work of the first Isthmian Canal Commission, where it was the duty of that Commission to determine the most practicable and feasible route for a ship canal, it was the unanimous opinion of that Commission that for its purposes a lock canal should be recommended, as it was recommended. That recommendation was largely for the tentative purpose of making a comparison between the Nicaragua and the Panama routes. In order to make a proper comparison, a comparison which might be considered fair and reasonable, it was necessary to make it upon the basis of a lock plan for each, because it would not be practicable or feasible in any sense of the word to construct a sea-level canal on the Nicaragua route."

On page 1498 I find the following:

"Senator MORGAN. In other words, you did not consider yourself committed by signing that report—joining in it—to the proposition that a sea-level canal at Panama was impracticable?

"Mr. BURR. Not necessarily. I felt—and I am sure at least one other member of the Commission also felt—that our investigations were not sufficiently extended. It was not possible at that time to extend them sufficiently to settle that question finally.

"Senator KITTREDGE. Who was the other member of the Commission?

"Mr. BURR. I refer to Mr. Morison."

Now, Mr. Chairman, that point is of importance, because it raises the question of good faith—our national good faith. That Commission did adopt a plan. It said, in as plain language as I can conceive of, that it adopted it and recommended it. There was nothing tentative about it, and it proceeded to appraise the value of the French property on that basis. The French had taken out some 77,000,000 cubic yards of material. Under that plan a large part of that material was not of any value, and we allowed them, I think, for some 39,000,000 cubic yards.

Senator KITTREDGE. Which plan do you now refer to?

Colonel ERNST. The plan that was recommended by the Commission of 1901.

Senator KITTREDGE. You mean the Commission that was appointed in 1899 and made its report in 1901?

Colonel ERNST. Yes, sir; the Commission of 1899–1901.

Senator MORGAN. The Commission of exploration under Walker.

Colonel ERNST. It was a commission appointed to report on all the routes. I was instrumental in getting up the report of that Commission, particularly the Panama chapter, and I worked in close alliance with Mr. Morison. He was with me in the work throughout. I know exactly what his views were; and here is a sentence which he wrote, ending up the paragraph discussing the sea-level plan. This is Mr. Morrison's own language:

"While such a plan would be physically practicable, and might be

adopted if no other solution were available, the difficulties of all kinds, and especially those of time and cost, would be so great that a canal with a summit level reached by locks is to be preferred."

There is nothing tentative about that.

As I say, if it was tentative, it was only fair to let the French Company know it. But we did not do that, and we allowed them for 39,000,000 cubic yards of material.

Senator KNOX. I do not just get your point as to where the good faith of the Government was involved.

Colonel ERNST. The French had expended a very large amount of money on the Isthmus, and they valued their property at a very large sum of money.

Senator MORGAN. They had spent \$260,000,000, had they not?

Colonel ERNST. Yes, sir; that was in hard cash that got into their treasury.

Senator MORGAN. And they got it almost two-fifths done?

Colonel ERNST. Well, yes, roughly; under some plans, you may say it was two-fifths done.

Senator KNOX. Just finish that answer where you were speaking about the good faith.

Colonel ERNST. They had estimated that they had removed 77,000,000 yards of material. We rejected all of that except what was useful under this plan.

Senator KNOX. Why did you reject it?

Colonel ERNST. Because it was not of any value to us. We expected to build the canal under that plan, and we thought it was fair to pay them for such of their work as would be useful under that plan.

Senator KNOX. Under what plan?

Colonel ERNST. The plan of 1901—the Commission of 1899–1901.

Senator KNOX. Being a lock scheme?

Colonel ERNST. Yes, sir.

Senator MORGAN. With a dam at Bohio; and what was the elevation?

Colonel ERNST. Eighty-five feet.

Senator MORGAN. Eighty-five feet, and a dam at Bohio?

Colonel ERNST. The same as this elevation, but with a dam at Bohio instead of Gatun. I am merely raising the point that that was not a tentative plan.

Senator KNOX. Then your point about "good faith" is that they would have been entitled to compensation for the full amount of the excavation had we contemplated building a sea-level canal which would have made that excavation useful?

Colonel ERNST. Yes; perhaps not the full amount, but a very much larger amount.

Senator KNOX. Yes.

Colonel ERNST. Instead of 39,000,000 perhaps they would have been entitled to some seventy-odd million.

Senator KNOX. Do you think that that in anyway estops us from building any sort of a canal we see fit to build?

Colonel ERNST. Oh, no; I do not think that.

Senator KNOX. Then how is our good faith involved in the matter?

Colonel ERNST. The good faith of that Commission is involved in having appraised a property at a certain value when it was worth a great deal more.

Senator KNOX. But this Government was not bound to adopt the views of that Commission; and if the French company chose to sell upon the tentative view of the Commission and accept pay for a less amount of excavation, this Government is not acting in bad faith in rejecting that Commission's view and building upon some other theory, even though it would involve the use of that excavation for which they did not receive compensation.

Colonel ERNST. I think that we, in equity, should pay them something more.

Senator KNOX. The logic of your suggestion is that if we do go on and build a sea-level canal we still should pay them some more money?

Colonel ERNST. Yes, sir.

Senator KNOX. I have no doubt they would agree to that, but I would not. (Laughter.)

Senator MORGAN. How far was that Bohio dam from the Gatun dam? How many miles.

Colonel ERNST. About 7 miles.

Senator MORGAN. At the time that you recommended the dam at Bohio at an 85-foot elevation, and made estimates of the cost of construction and the time of construction, etc., it was understood that that was recommended as a plan of construction, was it not?

Colonel ERNST. Yes, sir.

Senator MORGAN. And the only plan that they did recommend?

Colonel ERNST. Yes, sir.

Senator MORGAN. At that time was any test made or had any test been made of the site that is proposed by the minority for the dam at Gatun?

Colonel ERNST. There had been some; yes.

Senator MORGAN. Why were not those tests prosecuted at that time to ascertain whether the dam that is now proposed by the minority was feasible?

Colonel ERNST. It was believed by the majority of that Commission that the Gatun site was not available.

Senator MORGAN. You have changed your opinion since that time?

Colonel ERNST. Yes, sir.

Senator MORGAN. You believe that the Gatun site was available?

Colonel ERNST. Yes, sir.

Senator MORGAN. And you have changed that opinion?

Colonel ERNST. Yes; but not for the reason that I could not build that dam. I have changed my opinion.

Senator MORGAN. But not for that reason?

Colonel ERNST. No, sir.

Senator MORGAN. Mr. Wallace's borings carry the depth down to rock below sea level, 40 feet farther down than you carried them?

Colonel ERNST. Yes, sir.

Senator MORGAN. Would not that interrupt your conclusions and the satisfaction you would have in relying upon them in regard to building a dam at Bohio?

Colonel ERNST. No, sir.

Senator MORGAN. On what plan would you build a dam at Bohio as it has now been revealed?

Colonel ERNST. There are various methods, Senator, of tightening up that subfoundation. I think probably the most simple and economical

form would be to pump down liquid cement and turn that gravel into a concrete in situ.

Senator MORGAN. Has any great dam been built on that principle?

Colonel ERNST. Oh, yes, sir. They have done that on the Nile; not to such depths as that, but they have done it to a depth of 40 or 50 feet.

Senator MORGAN. They have done it to a depth of 40 or 50 feet; but they have got a granite foundation under the depth of the Assuan dam?

Colonel ERNST. Yes; but it is not that dam that I am referring to. It is the Assiut dam where they have done what I speak of. That dam that you speak of is all masonry, entirely built on a rock foundation.

Senator MORGAN. You still adhere to the belief that it is possible to build a permanent dam at Bohio?

Colonel ERNST. Yes, sir; I do.

Senator MORGAN. If that is possible, is not Bohio a better site than Gatun?

Colonel ERNST. No; I do not think it is.

Senator MORGAN. With a ridge coming in from each side and the spillway at Gigante?

Colonel ERNST. There is where the trouble about foundation comes in—about the length of the locks. We planned locks 740 feet long. Now the proposition is to build them 900 feet long.

Senator MORGAN. Is not the ground at Bohio sufficient for a 900-foot lock?

Colonel ERNST. No, sir.

Senator MORGAN. The ridge is not wide enough?

Colonel ERNST. No, sir.

Senator MORGAN. If we still found that a 750-foot lock was all that we needed, Bohio would still be, I suppose, the best location?

Colonel ERNST. I am not prepared to say that exactly. I like this lake navigation. It might possibly be still a better location, but I am rather inclined to think the Gatun location is the better one, because it gives more lake navigation.

Senator MORGAN. If you can get the lake navigation and maintain it, probably it is so; but are there no difficulties about constructing that dam at Gatun that you would like to avoid?

Colonel ERNST. It is a very big thing. No, sir; I do not think there are any difficulties that need trouble us.

Senator MORGAN. There is a gulch there 280 and odd feet deep; I forget exactly the depth—

Senator KITTREDGE. Two hundred and fifty-eight feet, as far as they have gone.

Senator MORGAN. Yes; 258 feet deep as far as they have bored down into that sugar-loaf gulch; and that is filled up, we will assume, and we have a right to assume it on the testimony, with permeable material; and then, opposite to that, on the same axis of the dam, there is another gulch that is about—how many feet deep is that other large, wide gulch? 200 feet?

Senator DRYDEN. Two hundred and four feet, I think.

Senator KITTREDGE. Yes; 204 feet.

Senator MORGAN. And that is filled up with permeable material. The indurated rock or clay which formerly filled these gulches, or which is supposed to have formerly filled them, has been washed out

and left an island in there. The dam, however, stretches right across both of them and across the island. Now is it, to your mind, any safer to build that great dam across these two gulches than it would be to build a dam across the same permeable material at Bohio?

Colonel ERNST. Oh, I do not think it is any safer; no, sir. The material which you speak of as permeable is only a small portion at the bottom; that is, that very loose material, the lower 50 feet of it. The upper 200 feet is practically impermeable; it is finer material. I am speaking now of the Gatun site. We have not found any material down there at all as coarse as some of that found at Bohio.

Senator MORGAN. They found wood there, did they not?

Colonel ERNST. Yes, I know they have found wood.

Senator MORGAN. Of course that is coarse material, and permeable, too?

Colonel ERNST. Yes; I meant gravel.

Senator KITTREDGE. May I ask a question here, Senator?

Senator MORGAN. Certainly.

Senator KITTREDGE. Colonel Ernst, you testified before this committee four or five years ago, did you not?

Colonel ERNST. Yes, sir.

Senator KITTREDGE. Upon the question of the foundation for the Bohio dam?

Colonel ERNST. Yes, sir.

Senator KITTREDGE. I read from page 676 of that testimony a question by the Chairman, Senator Morgan, at that time, referring to the pressure of the 85 or 90 foot head of water. He asked [reading]:

"The CHAIRMAN. That would be a tremendous pressure to put beneath a clay dam with material that is pervious to water?"

"Colonel ERNST. Oh, yes.

"The CHAIRMAN. It would be a very dangerous one, too.

"Colonel ERNST. Yes; unless you make that foundation tight, it is a dangerous one."

Senator MORGAN. That is the very point I had in mind, and I want to know from Colonel Ernst what his plan would be, now, for making that foundation tight down through this depth of 258 feet?

Colonel ERNST. Well, Senator, the claim is that it is practically tight now. What I said as to Bohio is strictly true. It did not apply only to the method which was suggested in that plan, but it applied to various other methods which might be used. If this lower 50 feet should by some wonder of nature discharge a large volume of water, it would be possible to reach that by this pumping process; but I do not believe it is going to be needed at all. There is this blanket, 200 feet thick, of impermeable material, covering it, and the amount of water that can get out under there is infinitesimal. That is what I think about it. I think that it will undoubtedly hold water.

Senator MORGAN. The higher you raise the head of water the more danger there is of its finding its way through permeable material at the bottom of the dam?

Colonel ERNST. Oh, yes; certainly.

Senator MORGAN. That is a danger that you can not take care of if the water goes through at all. You can not take care of it and reduce it to a mere seep or leak or percolation by building on top of it?

Colonel ERNST. I do not think the weight added on top will make very much difference about it. I think it will be impermeable with-

out it; practically impermeable. The amount of water that can leak through there is so small that it is not going to be appreciable at all.

Senator MORGAN. I do not look at it in the view of the wastage of the water, but the danger of the structure being undermined and sinking and breaking away.

Colonel ERNST. I do not think it is possible to get up velocity in there that would move any material at all. I think that is utterly impossible any more than the sandstone filter that they use in Spanish countries is worn by the water that flows through it. The velocity is so small that it can not have any wearing effect or transporting effect.

Senator MORGAN. No borings that have passed across the axis of the Gatun dam have actually reached rock foundation, unless you call this indurated clay rock?

Colonel ERNST. We call that rock.

Senator MORGAN. But you have not reached any such rock foundation as you found at Bohio? That was live rock—sure enough rock?

Colonel ERNST. I do not remember about that. It turned out that we did not get rock at all there, you know. My impression is that it was pretty much the same thing—hard material; a pipe would not sink any farther.

Senator MORGAN. But it still has not been hard enough to resist the action of water washing these great gulches out through it on each side around that island?

Colonel ERNST. That is true.

Senator MORGAN. If that is true, then it is not hard enough to resist a great current of water. But the rock at the bottom of the Bohio dam was hard enough to resist any pressure of water?

Colonel ERNST. I do not know about the relative hardness, Senator, at all.

Senator MORGAN. You have not seen Mr. Wallace's borings?

Colonel ERNST. Yes, sir; I have seen those.

Senator MORGAN. Did he get into the rock after he passed through those boulders that stopped your augurs?

Colonel ERNST. I believe he did; yes.

Senator MORGAN. Do not those borings indicate that that is tough, hard rock?

Colonel ERNST. I do not think it is what you would call very hard rock. It is rock, but I do not think it is very hard rock.

Senator MORGAN. Is it basalt?

Colonel ERNST. No, sir; there is no basalt there.

Senator MORGAN. What would be the classification of it?

Colonel ERNST. I think it is a sandstone. They call it "Gamboa grit;" the French called it that, I believe.

Senator MORGAN. It is something a little peculiar to the location, then?

Colonel ERNST. Yes, sir.

Senator MORGAN. A conglomerate, probably, formed by—

Colonel ERNST. I presume it is the same that is in that Bohio quarry. It looks like sandstone, and I believe it is. It is very soft at first, but hardens. They build their bridge piers out of it. It makes fairly good building stone.

Senator MORGAN. Colonel, you have been a long time examining this Isthmus?

Colonel ERNST. Yes, sir.

Senator MORGAN. You have probably given as much personal attention to it as any man that has ever been there, have you not?

Colonel ERNST. Perhaps so. .

Senator MORGAN. Do you know of the existence of any extinct volcanoes on the Isthmus out in the vicinity of the line of the canal?

Colonel ERNST. No, sir; I do not know of any?

Senator MORGAN. Down below Ancon Hill and out in that direction?

Colonel ERNST. I do not know of any. They may be there, but I do not know of any.

Senator MORGAN. My inquiry is based upon the fact Bunau-Varilla denies that there ever were any, and some of the witnesses on a former occasion before this committee swore that they had been down in them. I did not know but what you might have been?

Colonel ERNST. No, sir; I never have been.

Senator MORGAN. That is a difficult country to find anything in, is it not? It is covered with the chaparral, or a growth there, so that it is very difficult to find anything, is it not?

Colonel ERNST. Very.

Senator MORGAN. It is difficult even to find a great vortex in the ground, or a hill that rises above the ground, is it not?

Colonel ERNST. Very difficult.

Senator MORGAN. So that if a man testifies that he has seen extinct volcanoes there and been down in them, he would be more apt to know than a man that had passed by and did not see them?

Colonel ERNST. Oh, yes, sir.

Senator MORGAN. What difficulties are there, if there are any, within your knowledge, of an engineering sort or a physical sort in dredging a sea-level canal from the 40-foot contour through the Bay of Limon up as far as Gamboa?

Colonel ERNST. Only the difficulties of quantity and cost and of time. That is all.

Senator MORGAN. As to the cost, I suppose the transportation of the soil would be one of the big elements of cost?

Colonel ERNST. Yes, sir.

Senator MORGAN. Would not that be as cheap or cheaper by being carried out on barges to the sea and dumped into the sea wherever you might want to put it than it would be to haul it out on railroad tracks?

Colonel ERNST. The actual transportation of any particular cubic yard would be; yes, sir.

Senator MORGAN. The unit of cost of transportation of the material that you take out of a sea-level canal would be lower for transportation than it would be taken out dry and hauled off on a railroad?

Colonel ERNST. Yes; the idea I had in mind was that you would have a very narrow point of attack if you were attempting to use water transportation. You could only use water transportation over such portions of the canal as had water in it.

Senator MORGAN. If you came in from the 40-foot contour, your dredges would be followed by the depth of water, which would be 40 feet deep below sea level?

Colonel ERNST. Certainly, but you would be attacking just the front edge.

Senator MORGAN. That would be true on both sides of the Isthmus?

Colonel ERNST. Yes.

Senator MORGAN. So that there could be no want of water in conducting the dredging process right against the front of the opposing wall, whatever it might be, with the water following behind?

Colonel ERNST. Yes; but you could only use 2 or 3 machines, for instance, instead of 100, as they talk about using.

Senator MORGAN. But if the two or three machines could do the work of a hundred, it would make no difference, would it?

Colonel ERNST. No, sir.

Senator MORGAN. I think it is probably confessed that a dredge can do more work than a steam shovel, no matter how big it is, if the dredge is big enough.

Colonel ERNST. I suppose that is so.

Senator MORGAN. So that as an implement of work, in dredging or opening up a channel, the dredge is the preferable instrument, other things being equal, size and strength, etc.?

Colonel ERNST. Yes.

Senator MORGAN. If you were dredging a sea-level canal from the 40-foot contour to Gamboa, have you a sufficient knowledge of the topography at Gamboa and in that vicinity, between that and Bohio, to say whether you would follow the line of the River Chagres, or whether you would cut upon the right bank of the Chagres?

Colonel ERNST. Oh, yes; you could not follow the line of the Chagres River.

Senator MORGAN. You could not?

Colonel ERNST. No, sir; it is too tortuous. You would have to cross it a great many times.

Senator MORGAN. I mean, of course, the general line of the Chagres Valley.

Colonel ERNST. You would keep in the bottom of that valley, certainly.

Senator MORGAN. You would prefer to take your canal as straight as you could make it right across the river wherever you encountered it, but along the valley, rather than to encroach upon the hills on the right bank?

Colonel ERNST. Yes, sir.

Senator MORGAN. Is there any difficulty, in your estimation, in dredging a sea-level canal from this 40-foot contour up to Gamboa or the vicinity of it? Is there any physical obstacle there?

Colonel ERNST. Only the difficulty of getting it done in any reasonable length of time. You would have a very narrow point of attack. You could not, as you would if you were using land transportation, attack it at a great many different points—along, we will say, the whole length of the canal. By the method you describe you could only be attacking it at one point—the width of the canal in front.

Senator MORGAN. You would have two points: one from each side of the Isthmus?

Colonel ERNST. Certainly.

Senator MORGAN. And you could attack it with as many dredges as was necessary to cover the whole front of your operations?

Colonel ERNST. Yes, sir.

Senator MORGAN. Is there any physical obstruction or difficulty in the way of that?

Colonel ERNST. I do not know of any at all.

Senator MORGAN. At Gamboa you encounter the rock at the level of the sea?

Colonel ERNST. Yes, sir.

Senator MORGAN. How far is that rock beneath the topographic surface there?

Colonel ERNST. About 50 feet. The ground is about 50 feet above the level of the sea, I think.

Senator MORGAN. So that, after digging down for 50 feet, you would strike rock that was at the level of the sea, and you would have to go through that 40 feet below the level of the sea?

Colonel ERNST. Yes, sir.

Senator MORGAN. That would be 90 feet. Do you know of any physical or engineering difficulty that would be an obstruction—what we would call an obstruction—to the cutting of a sea-level canal along the line I have mentioned to Gamboa or in that vicinity? Would you find any impediment there that an engineer would shrink from and say "I can not accomplish it?"

Colonel ERNST. No, sir; there is nothing that is impracticable there.

Senator MORGAN. Between Gamboa and Obispo is about 3 miles, is it not?

Colonel ERNST. Yes, sir.

Senator MORGAN. We speak of the little village of Obispo—

Colonel ERNST. I think it is a little more than that. I can tell you in a moment. [After inspecting map.] It is 14 miles.

Senator KITTREDGE. You misunderstood the question. You are referring to Bohio there.

Senator MORGAN. You are referring to Bohio, are you not?

Colonel ERNST. Yes, sir.

Senator MORGAN. From Gamboa to Obispo, I mean.

Colonel ERNST. It is half a mile there—a very short distance. I do not believe it is more than half a mile.

Senator MORGAN. So that they are practically one location, speaking in the general sense. There is no special elevation or abrupt elevation of land between Gamboa and Obispo, is there?

Colonel ERNST. No, sir; there is not. The river comes in there. The rivers unite. The point between the rivers is very high ground. The Obispo River comes down and joins the Chagres River very near there.

Senator MORGAN. Yes.

Colonel ERNST. And of course they are at the same level where they join.

Senator MORGAN. Yes. And then there is a little valley through which the Obispo runs to join the Chagres?

Colonel ERNST. Yes, sir.

Senator MORGAN. And the canal would go right up that little valley?

Colonel ERNST. Yes, sir.

Senator MORGAN. Is the ground abrupt and high on either side of it?

Colonel ERNST. Yes, sir.

Senator MORGAN. Particularly so?

Colonel ERNST. Yes, sir; there is where you approach the Culebra Cut. That is the beginning of it.

Senator MORGAN. That is the first approach you make toward the Culebra Cut?

Colonel ERNST. Yes, sir; that is what you may call the beginning of the Culebra Cut.

Senator MORGAN. You go up the Obispo River from Gamboa, and then you go into the hill at the proper angle, called the first Emperador, and then Culebra?

Colonel ERNST. Yes, sir.

Senator MORGAN. Then your work is through that ridge, and from that over to Miraflores?

Colonel ERNST. Yes, sir.

Senator MORGAN. Have you ever examined the plan of the dam that the majority of the consulting engineers propose to put in at Gamboa?

Colonel ERNST. They did not prepare any plan, Senator; they submitted no design for that dam.

Senator MORGAN. They submitted no design?

Colonel ERNST. No design at all. They described it as an all-masonry dam or an earth dam with a masonry core; but there is no design for it.

Senator MORGAN. They give the height of it?

Colonel ERNST. Yes, sir; but no design.

Senator MORGAN. And an indefinite length upstream?

Colonel ERNST. That is all they say. They give the height.

Senator MORGAN. They do not give a cross section of it, do they?

Colonel ERNST. No, sir; they give no design at all.

Senator MORGAN. In your studies of this country, which I have no doubt have been entirely profound and very careful, what is your view or your opinion as to the practicability of putting a dam at Gamboa of the height that the majority of the committee propose?

Colonel ERNST. I believe it is practicable to build it.

Senator MORGAN. About how high is that?

Colonel ERNST. One hundred and eighty feet.

Senator MORGAN. That would throw the water back beyond Alhajuela probably?

Colonel ERNST. Yes, sir.

Senator MORGAN. I believe they give measurements for that as to the size of the lake it would form?

Colonel ERNST. Yes, sir.

Senator MORGAN. As to the cubic contents of the lake?

Colonel ERNST. Yes; they do give that, too.

Senator MORGAN. Would the water impounded by such a dam as that be sufficient to fill the prism of a canal between, say, Obispo and Miraflores?

Colonel ERNST. I have not in mind what that volume is, Senator, but I should think it would.

Senator MORGAN. On the other side, if a sea-level canal is dredged in from the 40-foot contour, near these islands, I suppose that would be through the level country, the low country, to Miraflores, and if that canal should be 40 feet deep below the level of the sea, and, say, 300 feet wide, would a canal with a prism of those dimensions dispense with the necessity of putting in a sea-gate?

Colonel ERNST. I do not think it would.

Senator MORGAN. Why?

Colonel ERNST. I think the volume of water that is to go in there has got to get through somehow—you mean for a sea-level canal?

Senator MORGAN. I mean a sea-level canal, yes, with a rise of water 10 feet or 10½ feet above ordinary sea level at high tide.

Colonel ERNST. That is one of those problems that is not capable of definite solution; but I made some such study as this, if it interests you at all [illustrating by pencil sketch]. We will suppose that this represents the Panama end of the canal, and this the Colon end. This distance is 47 miles, that height is 10 feet, and that height 10 feet [indicating]. Supposing the slope to be uniform all the way from Panama to Colon, which is the most favorable condition that you can have for velocities—that involves filling into that canal a prism of water which is shown there [indicating]. That can be computed. I have computed it.

The velocity required to get that volume of water in there is greater than you can possibly get up on that slope, which shows to me that that tidal influence will not extend clear over to Colon. It will only extend a little less than halfway. That gives you a slope which can be computed, and from that I get a velocity of 5 or 6 feet a second for an average. It is not going to be the same at all times. There can not be any average velocity there. It will be much greater at one time than it will be at another time; but I should expect a velocity of 6 or 7 feet a second there at least.

Senator MORGAN. At high tide?

Colonel ERNST. Yes, sir; at high tide and at low tide. It would flow in at one time and flow out at the other time.

Senator MORGAN. So that you think that that would not dispense with the necessity for the sea gates, even if that canal is 300 feet wide?

Colonel ERNST. No, sir; I think we will have to have sea gates there still.

Senator MORGAN. Suppose you make it 400 feet wide?

Colonel ERNST. I do not know where the limit will come. I suppose it would come in time, but not with a width of 400 feet. I think you would still have to have the sea gates with a width of 400 feet.

Senator MORGAN. I called your attention to it because some of the engineers who have appeared before the committee have said that a canal with a prism of 300 feet extending from Miraflores out to the sea would dispense with the necessity for the sea gates.

Colonel ERNST. That is a surmise, for which they can not give any convincing proof.

Senator MORGAN. A sea-level canal there would be 40 feet below sea-level according to the project, would be 200 feet wide, I believe it is, and the rock as developed by the borings through the Culebra Heights would average, according to some estimates that have been made here, 25 feet above sea-level; and that rock is all described, after you have reached it and until you get through it, as a solid cube of rock, of course with dikes in it and fissures and one thing and another; but, practically, in operations and in work it would be estimated as a solid cube. It would be, then, 65 feet in depth, 200 feet wide, and 8 miles long. That would be about the size of it, would it not?

Colonel ERNST. Yes, sir.

Senator MORGAN. It would take a long time and a great deal of hard work to get that cube of rock out of there, would it not?

Colonel ERNST. Yes, sir; a great deal.

Senator MORGAN. Was that one of the deterrents against the construction of the sea-level canal?

Colonel ERNST. Yes, sir.

Senator MORGAN. On account of the time it would take and the money it would cost?

Colonel ERNST. Yes, sir.

Senator MORGAN. Did any of the engineers suppose it would be otherwise impracticable?

Colonel ERNST. No, sir.

Senator MORGAN. In an engineering sense?

Colonel ERNST. No, sir; none at all.

Senator MORGAN. They thought that rock could be taken out?

Colonel ERNST. Oh, yes.

Senator MORGAN. The two plans that were submitted were a lock canal and a sea-level canal; that is to say, a lock canal over the whole width of the Isthmus, in some form, and a sea-level canal through the whole width, in some form, with practically the same line, the same curvatures, and all that. Was any intermediate plan ever suggested or acted upon by the Commission?

Colonel ERNST. You mean our commission of 1901?

Senator MORGAN. I mean the board of consulting engineers.

Colonel ERNST. They studied three or four different projects, different arrangements of dams.

Senator MORGAN. But they were all either lock canals through and through, or else they were sea-level canals through and through?

Colonel ERNST. Yes, sir.

Senator MORGAN. And an intermediate plan of a canal partly sea-level and partly a lock canal across the Culebra Heights was not passed upon by them?

Colonel ERNST. No, sir; unless you call that part leading up to Gatun, between Colon and Gatun, a sea-level canal. It is at the level of the sea.

Senator MORGAN. Yes; from Gatun up to Colon, or out to sea?

Colonel ERNST. Yes.

Senator MORGAN. That would be a sea-level canal.

Colonel ERNST. There is about 7 miles of it there.

Senator MORGAN. That would be, necessarily, a sea-level canal—that much of it?

Colonel ERNST. Yes.

Senator MORGAN. The two propositions that were submitted to the consulting board, as I understand, upon which they passed, were the lock canal, practically covering the whole width of the Isthmus, or a sea-level canal covering the same width.

Colonel ERNST. Yes, sir.

Senator MORGAN. But the question of the possibility of an intermediate plan of which, say, two-thirds would be sea-level and one-third lock canal was not considered?

Colonel ERNST. They considered a number of things, but I am not quite familiar with what they were. They made a number of studies besides. I think they discussed that.

Senator MORGAN. But they did not pass upon any such proposition as I suggest, because it was not submitted to them?

Colonel ERNST. No, sir; it never was worked up in detail.

Senator MORGAN. That was their duty, or what they were invited to do—to pass upon the simple question of a lock canal over all or a sea-level canal over all, across the Isthmus? The other projects, or

studies, whatever they may have been, were not passed upon except for the purpose of making calculations and the like of that?

Colonel ERNST. Yes, sir.

Senator MORGAN. Would you consider that a canal that was a sea-level canal as far out as from the 40-foot contour to Gamboa and then, say, a 60-foot level, if you please, from there across to Miraflores, and then return to the sea-level structure from that out to the Panama Bay, say, to the Isle of Naos, or wherever it might reach the 40-foot contour--would you consider that an impracticable scheme?

Colonel ERNST. No, sir; I think that could be done. You mean physically practicable?

Senator MORGAN. Physically practicable, yes.

Colonel ERNST. Yes; I think so.

Senator MORGAN. In that case you would get the water to fill that prism between Gamboa and Miraflores out of this Gamboa dam?

Colonel ERNST. Yes.

Senator MORGAN. And your opinion is that the stream there would furnish enough water to fill that prism, the balance of the proposed prism being, of course, filled with sea water?

Colonel ERNST. Yes, sir.

Senator MORGAN. That is all I want to ask you, Colonel.

Senator KITTREDGE. Do you regard the conditions at Bohio as favorable for the construction of a dam as at Gatun, leaving out of consideration the question of locks and the securing of a greater supply of water?

Colonel ERNST. Yes; I do. It would be a shorter dam.

Senator KITTREDGE. And you regard the conditions under the surface as favorable as at Gatun?

Colonel ERNST. Well, yes; I think I may say that. They are certainly conditions that can be met without any difficulty at all. Engineering resources can close up that subfoundation.

Senator KITTREDGE. You make that statement in the light of the fact that since you have testified here before, under the direction of Mr. Wallace, borings have gone 40 feet deeper than they had at that time?

Colonel ERNST. Oh, yes. That would not change my idea about the feasibility of building that dam at all.

Senator KITTREDGE. I will read just a few questions and answers from your testimony given before the committee four or five years ago, at the time Senator Morgan was chairman of the committee. (Reading:)

"The CHAIRMAN. So that there are contingencies to be looked forward to of serious character, both in the temporary dam and in the permanent dam?

"Colonel ERNST. I should think so.

"The CHAIRMAN. Do you agree with Mr. Morison that 125 feet below sea level at Bohio is an unusual and extraordinary depth in which to do pneumatic work?

"Colonel ERNST. Well, it never has been done yet to that depth.

"The CHAIRMAN. Do you know that it ever has been attempted, but failed?

"Colonel ERNST. No, sir.

"The CHAIRMAN. Well, engineers have not as yet been heroic enough to undertake it.

"Colonel ERNST. I do not know whether it requires heroism or not. They have not done it.

"The CHAIRMAN. If you were at work for private owners, who had to furnish the money out of their own pockets, you would despair of convincing them that it was a good venture.

"Colonel ERNST. It would depend on the necessity for it. Of course you take chances where you have to do it, and you do not take them where you do not have to."

Do you agree with that statement to-day?

Colonel ERNST. Oh, yes, sir; entirely. May I read the paragraph to which that examination referred in the report?

Senator KITTREDGE. You mean of the testimony?

Colonel ERNST. Not the testimony, but the report of the Commission.

Senator KITTREDGE. The testimony, of course, referred to the dam at Bohio?

Colonel ERNST. I want to read you what I had already signed concerning that dam. This was a sequel. It covers about a page. Do you object to that length of quotation?

Senator KITTREDGE. Refer to the page from which you read.

Senator MORGAN. I think it had better go in.

The CHAIRMAN. Read it, Colonel.

Colonel ERNST. It is an extract from the report of the Isthmian Canal Commission of 1899-1901 (reading from pages 94 and 95):

"The Bohio dam is the most important structure on the line, being of great magnitude, of vital necessity to the scheme, and offering many difficulties of construction. The Commission has devoted much time to the procurement of full and reliable information concerning the foundation upon which this dam must rest and to a study of the various types of structures which might be adopted." Then it gives an account of the borings and the materials.

"These materials are found in beds of varying shape and thickness, not distributed with uniformity, and not arranged according to any general law from which can be deduced the character of the soil at points other than those actually examined. In every section constructed from the borings strata of greater or less dimensions are found, which are permeable by water. How far these extend and whether or not they communicate with the surface of the ground above the site of the dam are points about which information can not be obtained in advance with certainty. If a dam be built with permeable strata under it there will probably be leakage, but what the amount of this will be is a question about which there is room for much difference of opinion.

"It would seem probable to many that the leakage will not be sufficient to endanger the water supply and that an earthen dam is therefore feasible, but it is evident that here is a danger to be avoided if possible. A masonry dam founded throughout upon the rock or an earth dam with a masonry core going down everywhere to rock would close the valley completely and would leave no question open as to its future efficiency. In its preliminary report the Commission based its estimates on a masonry dam. The examinations of the ground had not at that time been completed. So far as they had progressed they showed a site where a masonry dam seemed the most suitable, but it was subsequently found that the depth to rock upon that site was at least 143 feet below sea level at the deepest part.

"It was considered best to avoid, if possible, so great a depth of foundation. A site was found a few hundred feet farther downstream, where the length of the dam would be considerably greater than at the former site, but the greatest depth to rock revealed by the borings was only 128 feet below sea level. The line runs from a point near the railroad station at Bohio, on the east side of the river, straight across to the rocky hill on the west side.

"On the east side the rock is at the surface practically from the water in the river to the end of the dam. On the west side the bank above low water is composed either of pure clay or of clay mixed with sand, while below low water are found irregular beds of sand and sandy clay. The physical features of the location admit of the construction of an earth embankment with a heavy masonry core carried down to bed rock throughout the length of the structure. For reasons of economy that type of dam is preferable to one wholly of masonry upon the new site, and is now adopted."

So that it was to remove all doubt. There is something else here in my evidence before that committee that I would like to find.

Senator KITTREDGE. Right at that point, if it will not interrupt you: The dam of which you were talking when you testified before us at the time I have mentioned, four or five years ago, contemplated a foundation to bed rock, did it not, at Bohio?

Colonel ERNST. That was the scheme on which the estimate was made. It did not mean, necessarily, that there was no other way to make that subfoundation tight. The point was to make the subfoundation tight.

Senator KITTREDGE. You recommended to us, or advised, at least, that the dam at Bohio be placed upon a rock foundation?

Colonel ERNST. Yes; the core.

Senator KITTREDGE. Yes; either on a foundation of solid rock or a masonry core. That is right, is it not?

Colonel ERNST. Yes, sir.

Senator KITTREDGE. You regarded that dam at Bohio without a masonry core—putting it that way—as involving danger to the structure and danger to the canal, did you not?

Colonel ERNST. No, sir; that is not a necessary sequence. Let me read you some more of this evidence of which you have already quoted a part (reading):

"Senator HANNA. Now, about the Bohio dam. That is a matter about which there has been a great diversity of opinion in the testimony given here, and I would like to have your opinion about the construction of that dam—as to whether or not is feasible. The two dams have been discussed. Mr. Morison gave testimony that, in his judgment, he thought that upon further examination that in the work of construction he had faith to believe that a core dam would not be necessary.

"Colonel ERNST. That is the opinion of many very sound engineers.

"The CHAIRMAN. Have you seen Mr. Morison's statement in his paper before the American Society of Engineers?

"Colonel ERNST. Yes; I have seen that. These French engineers did not propose to put a core down at all. They did not know how far the rock was—they did not find it. We did. They proposed an earth dam and Mr. Morison prefers an earth dam. The majority of the Commission felt that that left a danger that it was desirable to avoid

if possible. There is no use of taking unnecessary risks, and we thought it was possible to close that geological valley absolutely, with an impervious core, going down to bed rock, and then there is no question but what there is under that dam an impervious core. That was the most conservative way, at least for the estimate, but at the same time a very much more expensive way, and the Commission felt that it was desirable to put in an estimate for the most effective and the most expensive dam.

"Senator HANNA. But when it came to the time for construction and further investigation conditions may be found to exist that would change the opinion in reference to that?"

"Colonel ERNST. That is possible."

"Senator HANNA. And, of course, there would be further investigations made before any work would be commenced?"

"Colonel ERNST. Yes."

Senator KITTREDGE. That was the testimony that I had in mind. So that you regarded that condition which you have described there as a danger to the dam structure and the canal itself, did you not?

Colonel ERNST. We regarded the leakage under the dam as a danger; yes. We did not regard that masonry core as a necessary means to stop that leakage. There were other means to stop it.

Senator MORGAN. But still you recommended a cut-stone dam?

Colonel ERNST. No, sir; an earth dam with a masonry core.

Senator MORGAN. Did the Commission recommend an earth dam with a masonry core?

Colonel ERNST. Yes, sir. What we were trying to do there was to give a thing that was absolutely safe.

Senator KITTREDGE. That is the wise thing to do always in a work of this sort, is it not?

Colonel ERNST. Exactly. The masonry core was one method. It was to be put down by the pneumatic process. It was not the only method.

Senator KITTREDGE. What other methods had you in mind at that time, and have you in mind now, to cut off that water?

Colonel ERNST. The principal method, the one that I should first use, would be to pump down liquid cement.

Senator KITTREDGE. To what depth can that be done?

Colonel ERNST. I do not see why it can not go to any depth that you can put a pipe down.

Senator KITTREDGE. Is there certainty that you can by that method effectually close all places through which water percolates?

Colonel ERNST. I think so.

Senator KITTREDGE. How can you determine that fact absolutely?

Colonel ERNST. Why, you can have test pipes and see when the flow stops. I think it is perfectly feasible to tighten up all those crevices, so that there will not be any leakage at all.

Senator KITTREDGE. Do you advise that that method be pursued in the Gatun dam structure?

Colonel ERNST. No, sir; I do not think it is necessary there at all. It is one of the things that could be done if it were necessary.

Senator MORGAN. That liquid cement when it was pressed into the interstices of a material that it was to harden would unite with such material and make a grouting that would make a solid rock in the course of time?

Colonel ERNST. That is just what it would make.

Senator MORGAN. If there was any wood in there it would not unite, would it?

Colonel ERNST. It would be buried in this artificial rock. It would make an artificial rock, and anything there would be buried in it.

Senator MORGAN. It would be very necessary, would it not, Colonel, to have the material into which you make this injection of cement of such consistency and such uniformity of structure as that the cement would fill up all parts of it under pressure, so that when it hardened it would become equivalent to solid rock there?

Colonel ERNST. You would want to fill up all the interstices; yes, sir.

Senator MORGAN. You would do that by putting pressure enough upon your pump to drive it down?

Colonel ERNST. Yes, sir.

Senator MORGAN. I want to ask the Colonel some other questions on a different subject.

Senator KITTREDGE. I wish to ask him one more question, if I may, Senator?

Senator MORGAN. Certainly.

Senator KITTREDGE. Why do you recommend that this process which you have described be used at Bohio and not at Gatun?

Colonel ERNST. There is a very great difference in the material down there near the bottom. At Bohio we found some material there as big as a hen's egg. We did not find it, but Mr. Wallace's borings found material down there as big as a hen's egg. They have no such material as that at Gatun. That is the reason.

Senator KITTREDGE. In what respect does the material differ taken from the borings at Bohio and at Gatun, at the depth of 258 feet?

Colonel ERNST. In that respect. In one case it is fine and in the other case it is not. It is very much finer and very much less porous in the one case than in the other.

Senator KITTREDGE. But at Gatun it is porous just the same, is it not?

Colonel ERNST. Not the same; no.

Senator KITTREDGE. But it is porous?

Colonel ERNST. Yes; there is some porous material down at the bottom.

Senator KITTREDGE. Differing only in degree?

Colonel ERNST. Only in degree; yes.

Senator MORGAN. But the report of the minority does not propose to inject cement down into these deep gorges?

Colonel ERNST. No; I do not propose it either. You do not understand me to propose it?

Senator MORGAN. You merely recommend it as a measure that—

Colonel ERNST. That could be used at Bohio. We are talking about the Bohio dam, entirely.

Senator MORGAN. Could you not make use of the same material, in the same way, at Gatun?

Colonel ERNST. Certainly, if you wanted to; if it was necessary.

Senator MORGAN. In case you did it by injecting cement, you would have a better foundation, or a better stone protection against percolation of water than you would have at Gatun?

Colonel ERNST. Yes, sir.

Senator MORGAN. Because the material is finer?

Colonel ERNST. It would be better. It is not necessary.

Senator MORGAN. You are a member of what I call the Walker Exploration Commission of 1901?

Colonel ERNST. Yes, sir.

Senator MORGAN. And you served on that and joined in the report?

Colonel ERNST. Yes, sir.

Senator MORGAN. And then you became a member of the first Walker Construction Commission?

Colonel ERNST. No, sir; I was not a member of that.

Senator MORGAN. Or of the present one?

Colonel ERNST. I am on the present one.

Senator MORGAN. You were not with the Walker Commission, then, when they were encountering the first work that they had to do in providing for constructing the canal down there?

Colonel ERNST. No, sir.

Senator MORGAN. But you knew the conditions pretty well, did you not?

Colonel ERNST. Yes, sir.

Senator MORGAN. I wish you would describe them, Colonel, if you please. I want to show, in justice to that Commission, the sort of work that had to be done and the amount of it in the first opening up of their work on the canal.

Colonel ERNST. The work had gone to seed. The French had a force down there of 600 or 700 men taking care of the property. There was an immense amount of machinery and plant of every description upon the site, which we had looked over and pronounced worthless; that is to say, it was so nearly worthless that we would not make any special allowance for it. It is said to have cost \$30,000,000, and I think that is not impossible.

There were village after village of these laborers' camps, engineering camps along the Isthmus, some of them buried in thickets. Some of them you would not know were there, and they were not discovered until later. Those buildings looked a great deal worse than they really turned out to be afterwards. The exterior was badly rotten, the boards were exposed to the weather, wind, and rain, and were ready to fall to pieces. You would take those off, and you would come to good lumber; so that there was a good deal more in the buildings than we thought there was.

The railroad was overworked and behind the times. There was a man in charge of it who had left this country sixteen years before, who was a very good railroad man in his day, but who had not learned anything of the new methods. The wharves were not sufficient really for the every day traffic of that railroad. The Commission had to create everything from the ground. They had to rebuild or build new all the structures required for a population, we will say, of 25,000 people; and by that I do not mean simply boarding houses and sleeping rooms, but they had to build jails, and hospitals, and court-houses, and everything else that you require in a municipality.

They had to multiply the wharf room by eight or ten—I do not know what—to build new wharves. They had to buy new steamers to get things down there. This could not all go on at once, because to do this work you had to have shelter for your men, and they did not have that. So that the progress had to be gradual, of course, first getting a little more force, and then a little more accommodation to take

care of more force; so that it increased by degrees. It was utterly impossible to do that thing in a day—absolutely impossible. I think the Commission did some very good work down there.

Senator MORGAN. Then they had to organize transportation, I suppose, on the Isthmus?

Colonel ERNST. Yes, sir. They had to reorganize the railroad, and they had to get a new plant. The locomotives were out of date and the cars were out of date. I think they ordered some 1,500 cars. I have a memorandum of that somewhere. [Consulting memorandum]. Yes; they ordered 24 locomotives, 500 box cars, 6 passenger cars, 12 caboose cars, 1 pile driver and wrecker for the railroad.

Senator MORGAN. This was all necessary just for inaugurating the work?

Colonel ERNST. For inaugurating it, yes, sir. They ordered 61 steam shovels, 120 locomotives, 1,300 flat cars, 324 dump cars, 12 Lidgerwood unloaders, and 13 spreaders. Those were some of the principal items of plant that they had to get. Concerning that old material down there, as I say, we were not willing to allow anything for it. We were conscious that there was some residue of value in it; that some of that material might be used—bar iron, and things like that, surveying instruments, and so on—but we were not ready to pay anything for it at all, except in that general item of omissions. That is all they had. They patched up a lot of that and kept their force going with it.

Senator MORGAN. The railroad and connecting steamers that belonged to the railroad were an indispensable arm of that service?

Colonel ERNST. Yes, sir; absolutely.

Senator MORGAN. But for those they could not have made any progress?

Colonel ERNST. Practically, no.

Senator MORGAN. If they had depended upon miscellaneous shipping to get their material and people in there, and food, and all that, they could have made practically no progress.

Colonel ERNST. No, sir.

Senator MORGAN. The country was barren of food, practically?

Colonel ERNST. Yes, sir; there was not enough for the people who lived in it.

Senator MORGAN. The railroad was then, in fact, and practically during the first year of the effort to open that canal, the most active and the most important factor in the work?

Colonel ERNST. Yes, sir.

Senator MORGAN. Who controlled that railroad in regard, for instance, to transportation, and also in regard to freight rates across the Isthmus at that time? Was it the railroad company?

Colonel ERNST. The railroad company, yes; the board of directors.

Senator MORGAN. When you got there as a commissioner you found that the railroad and all of its work and all of its property and all of its possessions were under the control of the railroad company?

Colonel ERNST. Yes, sir.

Senator MORGAN. Through a board of directors?

Colonel ERNST. Yes, sir.

Senator MORGAN. And the United States had acquired at the time you became a Commissioner all or nearly all of the stock in the railroad?

Colonel ERNST. Yes, sir.

Senator MORGAN. And soon acquired the whole of it?

Colonel ERNST. Yes, sir.

Senator MORGAN. And the United States, through its Canal Commissioners, organized a board of directors for that railroad with some outsiders coming in—stockholders?

Colonel ERNST. Yes; the number is fixed by law—by the charter—and the Secretary of War really represents the Government. He dictates the board of directors.

Senator MORGAN. He dictates—or did then, when you first came in, dictate—the majority of the board of directors; but there were still persons who were elected in some way by the stockholders that had not as yet sold their stock?

Colonel ERNST. I do not understand it that way, Senator. The shares were so few and so scattered that they could not control a director. There were only some 1,100 shares, and they were scattered all over the world. The other nearly 69,000 were voted by the Secretary of War, and he dictated the board of directors; and he ordered that each member of the Canal Commission should be a member of the board of directors.

Senator MORGAN. Yes; that is, controlling the majority of the stock?

Colonel ERNST. Yes, sir.

Senator MORGAN. So that after the Government took over the property it first obtained a board of directors, and they were really named and elected by the stock of the United States?

Colonel ERNST. Yes, sir.

Senator MORGAN. And through the Secretary of War?

Colonel ERNST. Yes, sir.

Senator MORGAN. And the Secretary of War went out and got other persons who had no connection with the construction of the canal at all, and no interest in it, to come in and constitute membership in that board?

Colonel ERNST. Yes, sir.

Senator MORGAN. You had been there at the opening and before the opening of any work done by the United States Government, and you arrived again, I suppose, as a Commissioner, at the time that the first Commission was removed.

Colonel ERNST. Yes, sir; soon after that.

Senator MORGAN. Do you know whether their resignation had been required by the Government?

Colonel ERNST. Not of my personal knowledge. I only know what I saw in the newspapers about it.

Senator MORGAN. But they had all resigned?

Colonel ERNST. Yes, sir.

Senator MORGAN. And a new Commission was appointed?

Colonel ERNST. Yes, sir.

Senator MORGAN. And upon that new Commission some of the old Commissioners were retained. Who were they? Colonel Hains was one that was retained, was he not?

Colonel ERNST. No, sir; Colonel Hains was on the Commission of 1899-1901. He was not on the first construction Commission. There was no member of it retained—yes; Major Harrod was retained.

Senator MORGAN. Was he the only one?

Colonel ERNST. Yes, sir.

Senator MORGAN. So that six were removed or resigned, and one remained?

Colonel ERNST. Yes, sir.

Senator MORGAN. And he formed a nucleus around which the new board was assembled?

Colonel ERNST. Yes, sir.

Senator MORGAN. Where is Major Harrod now?

Colonel ERNST. He is here in the room. [Laughter.]

Senator MORGAN. He is right here? I did not know the gentleman. I did not know that he was in the room.

When you entered upon your duties as a commissioner, you then first knew accurately the amount of work that had been done by that first construction commission?

Colonel ERNST. Yes, sir.

Senator MORGAN. Did you think that was a creditable or a discreditable performance on the part of that board?

Colonel ERNST. It certainly was not a discreditable one.

Senator MORGAN. Have you any knowledge of any objection that was urged by the President or by anybody else to a member of that first construction commission, called the Walker commission, on the ground of incompetency or delinquency in the performance of duty or for any other cause?

Colonel ERNST. No, sir.

Senator MORGAN. There was nothing assigned?

Colonel ERNST. No, sir; I never heard of anything.

Senator MORGAN. They were merely swept out and a new commission put in. Have you any knowledge of the influences that were brought to bear—any of them—to produce that result?

Colonel ERNST. No, sir.

Senator MORGAN. Were you surprised at it?

Colonel ERNST. Very much.

Senator MORGAN. You were very much surprised?

Colonel ERNST. Yes, sir.

Senator MORGAN. You are still unable to account for it?

Colonel ERNST. Yes sir; entirely.

Senator MORGAN. The country seems to be in the same condition. When you entered upon work there under the new Commission, did the Commission immediately go down to the Isthmus, after they were appointed and organized?

Colonel ERNST. Not immediately. We were organized the first of April, and the order of the President was that we should meet on the Isthmus the first of each quarter; that is, the first of April, the first of July, and so on. We were organized too late to go at that time, so that we, under the orders, intended to go in June. Mr. Wallace's resignation came just about the time that we were getting ready to go down there, and that deferred the trip for two or three weeks, so that we did not actually go until some time in July.

Senator MORGAN. How long did you remain on the Isthmus after you went down as a body?

Colonel ERNST. I think we were there about two weeks.

Senator MORGAN. When you got there you found that the previous Commission had organized all of the statutes and ordinances that were necessary for the government of that Zone, or supposed to be necessary?

Colonel ERNST. Yes, sir.

Senator MORGAN. That was a heavy task, was it not?

Colonel ERNST. I should think it must have been a very heavy task.

Senator MORGAN. The records here show that it must have been a heavy task. And they had put in operation the judicial establishment, organized and put in operation the health establishment, and the labor as far as it was being conducted, and the commissary establishment, and whatever was necessary for the accommodation of the laborers who were there and those that were coming in. I suppose that is all correct, that they had done all that?

Colonel ERNST. They had done it as far as they were able to do it. Of course that work was not completed.

Senator MORGAN. The laborers came in rapidly after the new Commission was appointed, did they not?

Colonel ERNST. Yes, sir.

Senator MORGAN. You made it a business to push labor in there, employees of every kind?

Colonel ERNST. Yes, sir.

Senator MORGAN. And a good many appointments were made to clerical and other positions among what were called the gold men?

Colonel ERNST. Yes, sir.

Senator MORGAN. And there were some thousands added to the list of laborers?

Colonel ERNST. Yes, sir.

Senator MORGAN. About how many?

Colonel ERNST. I think that that force grew from about 7,000 in July to some 17,000—I do not know, Senator.

Senator MORGAN. That was an addition practically of 10,000 laborers?

Colonel ERNST. There was a very large addition, I know that.

Senator MORGAN. The first Commission had put on, I suppose, from your calculations here, about five or six thousand laborers?

Colonel ERNST. Oh, I think so.

Senator MORGAN. And then, when the new Commission came in, there were 10,000 more put on.

Colonel ERNST. There have been that many added; yes.

Senator MORGAN. And it was done in a hurry, was it not—with rapidity?

Colonel ERNST. As fast as we could; yes, sir.

Senator MORGAN. You made great efforts to get labor?

Colonel ERNST. Yes, sir.

Senator MORGAN. When this great addition of 10,000 laborers came into this Isthmus, were sufficient quarters provided for that great addition to the force?

Colonel ERNST. There was always a tight squeeze. There were always more men than there were quarters, and I suppose that is so to-day; but the quarters were being increased as fast as they could, and the men were being increased as fast as the quarters could be provided, and the thing kept along in that way.

Senator MORGAN. And there were rapid importations I suppose—and the record shows it—of lumber for building material from the Pacific coast and from the Atlantic coast?

Colonel ERNST. Yes, sir.

Senator MORGAN. And of all other kinds of material that were necessary to be employed in the rapid progress of the work?

Colonel ERNST. Yes, sir.

Senator MORGAN. And you had a great many mechanics there, carpenters, and so on, for the purpose of putting up houses and repairing houses, etc.?

Colonel ERNST. Yes, sir.

Senator MORGAN. And the work went on rapidly?

Colonel ERNST. Yes, sir.

Senator MORGAN. And hurriedly. You then added water to provide for those people?

Colonel ERNST. Yes, sir.

Senator MORGAN. And to provide a water supply for Panama?

Colonel ERNST. Yes, sir.

Senator MORGAN. And also for Colon?

Colonel ERNST. Yes, sir.

Senator MORGAN. Had the old commission made progress in furnishing a water supply for these places?

Colonel ERNST. Oh, yes, sir.

Senator MORGAN. They had pretty nearly completed it, had they not?

Colonel ERNST. They had the water turned on at Panama, which was the most important of all of the water supplies. They had brought their pipes down from the reservoir into the city and had laid, I think, 25 per cent of the pipes in the city and had turned the water on. There were public hydrants and some of the houses were supplied. But all the people could go out to the hydrants and get water at the time we went there.

Senator MORGAN. That water supply came from a distance of 6 or 7 miles?

Colonel ERNST. Yes, sir.

Senator MORGAN. Out of the reservoir that the old Commission had constructed there in the hills?

Colonel ERNST. Yes, sir.

Senator MORGAN. And they got the water chiefly, I suppose, out of the Rio Grande or its affluents?

Colonel ERNST. At the headwaters of the Rio Grande they formed the reservoir.

Senator MORGAN. Was the water usable and good?

Colonel ERNST. It seemed to be very good, indeed.

Senator MORGAN. Well, then, this first Commission had also put in additional wharfage?

Colonel ERNST. Yes; but I do not think any of it was finished. They had begun it.

Senator MORGAN. Had they made improvements upon the railroad?

Colonel ERNST. Yes; they had made some improvements.

Senator MORGAN. Had they extended any spur tracks into the diggings?

Colonel ERNST. I can not be sure about that. Have you our annual report here?

Senator MORGAN. I would not detain you to go over that, because it is, perhaps, not a very important item.

Colonel ERNST. They had made some improvements in the railroad. They will be found enumerated in our annual report.

Senator MORGAN. Down in the Bay of Panama, did they make any necessary improvements in order to facilitate commerce in connection with ships?

Colonel ERNST. Well, they had a dredge at work there.

Senator MORGAN. They had a dredge at work?

Colonel ERNST. Yes, sir; they had a dredge at work, and they had overhauled the repair shop there for making marine repairs.

Senator MORGAN. That was down at La Boca, at the mouth of the Rio Grande?

Colonel ERNST. Yes, sir.

Senator MORGAN. And they had overhauled and repaired other machine shops along on the line of the railroad and the canal, down clear to Colon?

Colonel ERNST. Yes, sir.

Senator MORGAN. Had they made repairs in Colon, and made any effort to clean up that place?

Colonel ERNST. Well, they had not done any engineering. They had begun on their water supply. Yes; they had cleaned all the American part.

Senator MORGAN. As to the condition of the engineering when you took over these French maps, was it at all satisfactory, in regard to projected work that the Commissioners had in view? Were those maps satisfactory? Were they either reliable or sufficiently developed?

Colonel ERNST. They were very reliable where the French had actually done work. The French are excellent engineers, and wherever these maps were the result of actual observation they were very reliable; but there was more or less sketching in some parts of those maps.

Senator MORGAN. Take the maps topographically, reaching out into the headwaters of the Chagres and the other rivers, were those maps reliable?

Colonel ERNST. In many places they were not, because, as I say, they were not the result of actual observation, they were sketches.

Senator MORGAN. Was it not necessary to predicate your work in the canal upon a resurvey of the whole system from end to end?

Colonel ERNST. No, sir; I could not say that, Senator. The line of the canal was very thoroughly surveyed, and anything within easy reach of the canal, anything that would come anywhere near the canal prism itself. When we would come to overflowing large tracts of country by dams such as the Gamboa dam or any other dam, there you would get back into country that was not very well known, and there was where the trouble came in.

Senator MORGAN. As to the line of the canal: Take its axis through and through; had the French conducted borings along the entire line of that canal from Colon out to the Bay of Panama?

Colonel ERNST. Yes, sir.

Senator MORGAN. So as to get down to the actual condition of the substratum, as deep as sea level?

Colonel ERNST. Yes, sir; they had.

Senator MORGAN. Were those borings reliable?

Colonel ERNST. Yes, sir.

Senator MORGAN. Were they close enough together to give sufficient accuracy to the data?

Colonel ERNST. They were reasonably so. Of course, we have made a great many since; and the more borings you have the better. It is impossible to make enough borings to give anything more than

a general idea, anyway. Yes, I think you may say they were reasonably close together.

Senator MORGAN. Do you know whether the Joint Commission relied upon the French borings at all, or whether they took the American borings as furnishing the proper data for determining what was below the surface?

Colonel ERNST. I do not know about that; but I presume they took the latest; I do not know how much attention they gave to that French profile.

Senator MORGAN. As a practical business matter, with your present knowledge of what those engineering reports and maps and contributions to literature, and so forth, were, would you give \$2,000,000 for lars for them?

Colonel ERNST. Yes, sir.

Senator MORGAN. You would?

Colonel ERNST. I would.

Senator MORGAN. And yet would not rely upon them after you got them?

Colonel ERNST. I would try to make some fair compensation for what they cost.

Senator MORGAN. I am not talking about that, but just as if you had no idea of compensation about it and were getting them at a fair price for what they were worth to the incoming Engineering Corps of the United States.

Colonel ERNST. I do not believe you could have gotten that information for \$2,000,000, Senator.

Senator MORGAN. You do not think you could have gotten the information that the French had there for \$2,000,000?

Colonel ERNST. No, sir; I do not believe you could have made all those surveys and constructed all those maps for \$2,000,000, and of course you could not have gotten the history. The records would go back for twenty or thirty years. You could not get that at all at any price.

Senator MORGAN. Is there much use for that history?

Colonel ERNST. Yes, sir; that is what we rely on to determine what the action of the Chagres River will be in the future.

Senator MORGAN. That includes the measurements of the flow of water in the river?

Colonel ERNST. Yes; the flow of the water in the river is changing all the time, and is different in different years, and we have a fairly decent record of it now for about fifty years; only fair, though. If we had it a hundred years back we would be a good deal more sure of it.

Senator MORGAN. In that respect I suppose what the French wrote was a mere account of the operation of the water gauges that they put in the Chagres River and watched? That is all?

Colonel ERNST. Their original observations, yes; and they collected all the information that they could collect, also.

Senator MORGAN. That was not any intricate engineering project or process?

Colonel ERNST. That is not costly except in the matter of time. It does not cost much to make those observations.

Senator MORGAN. Is there any point, or was there any point when you went to survey that Isthmus as a Commissioner and looked over

what had been done or remained to be done, in which you found that the former Commission had been deficient in industry, perseverance, knowledge, or fidelity?

Colonel ERNST. No, sir; none at all.

Senator MORGAN. None at all?

Colonel ERNST. No, sir.

Senator MORGAN. And you still do not know the reason why they were removed?

Colonel ERNST. No; I do not know of my own personal knowledge. I have seen everything that has been published in the newspapers.

Senator MORGAN. The newspapers are not always reliable upon such subjects, are they?

Colonel ERNST. No; I may say that I do not know.

Senator MORGAN. You may have formed some opinions, but you got them from newspaper accounts?

Colonel ERNST. Exactly.

Senator MORGAN. Practically—looking over the ground and surveying it with a view to continuing that work that had been commenced there—you found no deficiencies and no mistakes?

Colonel ERNST. Oh, I do not mean to say that I saw no mistakes, but no more than any man is liable to make. Any man is liable to make mistakes. I do not think there were any very grave mistakes except, possibly, one. No; I do not think that there were any grave mistakes.

Senator MORGAN. Have you in mind any mistake that you would call such without attributing to it any great gravity or weight?

Colonel ERNST. I have in mind a mistake which has had serious results, but I do not know but that it is a mistake that any man might have fallen into.

Senator MORGAN. I would like you to mention it.

Colonel ERNST. I think the conclusions drawn from the experimental work done in Culebra was a mistake that had bad results.

Senator MORGAN. What was that?

Colonel ERNST. That you could take that material out for 50 cents a yard.

Senator MORGAN. That was too cheap?

Colonel ERNST. Yes; I think so, decidedly.

Senator MORGAN. It was too cheap by a dollar, was it not?

Colonel ERNST. No, sir; by 30 cents, at least.

Senator MORGAN. The first commission estimated that you could take out that material through Culebra cut at 30 cents?

Colonel ERNST. No, sir; they estimated that you could take it out at 20 cents. You asked me what mistakes I noticed. The new Commission, or at least the engineering committee of the new Commission, thought they could take it out for 50 cents.

Senator MORGAN. That the others had priced it too high?

Colonel ERNST. Yes; they thought so.

Senator MORGAN. Mr. Wallace, who conducted that work, found that he sometimes had to pay \$1.75 per cubic yard for it.

Colonel ERNST. Well, that developed afterwards. Mr. Wallace thought he could take it out for 50 cents. I think he testified that before this committee at the hearing. I think he is mistaken.

Senator MORGAN. What is the unit of price that you would put upon the dry work to be done through from Gamboa to Miraflores?

Colonel ERNST. Well, for that material in there it is about 80 cents. Our estimates are 80 cents for soft rock in the dry, \$1.15 for hard rock in the dry, and then we had another estimate of \$4.75 for rock under water. I think they were not far out of the way.

Senator MORGAN. Are you prepared now to recommend those estimates as being such as the Government can act upon?

Colonel ERNST. I think you might reduce the rock-under-water estimate somewhat. That is the most uncertain item in the whole matter. I think those other figures are about right. They are essentially what have been adopted by this Consulting Board.

Senator MORGAN. Was any of the spoil that was hauled out by the work done by the first Commission left where it has to be worked over a second time?

Colonel ERNST. I do not know of any such case at all.

Senator MORGAN. Do you think any mistake was made in selecting the dumps for the spoil?

Colonel ERNST. No, sir; I do not think so.

Senator MORGAN. So that the work done by them would bear scientific tests?

Colonel ERNST. I think so.

Senator MORGAN. I do not know that I have any further questions to ask.

Senator ANKENY. Colonel, have you any idea what area of land that dam in the lock system would overflow; that is, how much land it would destroy? In other words, how much damage this Government would be liable for in the event that lock system was completed?

Colonel ERNST. Yes; I have some idea. I think it is 105 square miles that that large lake overflows and some 8 square miles for that one. This is the principal one up here [indicating on the map]. I think 58 square miles of that is now owned by the railroad or the canal, and the remainder is either private property or owned by the Panama Government. A great deal of it is marsh. The marshes are shown on this other map perhaps better than they are on this one. There is a good deal of marsh down here [indicating]. You have had some extraordinary evidence given before the committee about the value of this land.

Here is all this marsh that is overflowed now [indicating on map]. So is this. This is half overflowed [indicating]. But of course there will be a good deal of land flowed. It is almost uninhabited, except right along the line of the railroad. There are a number of little villages on the line of the railroad, but I think nearly all of that property belongs to the railroad. The estimates that have been given you of \$18,000,000—and one man said, I think, \$25,000,000—seem to be preposterous.

Senator ANKENY. What would be your idea? You are familiar with the whole subject.

Colonel ERNST. I do not see why that estimate of the minority is not about right. They say \$300,000. The Chief Engineer, Mr. Stevens, looked into that question, and independently reached that same figure without knowing at all how the other party reached it.

Senator ANKENY. How do you know what belongs to the railroad and what belongs to the citizens there?

Colonel ERNST. Well, we have a land map.

Senator ANKENY. Certainly; but what titles?

Colonel ERNST. The titles are somewhat mixed, I believe.

Senator ANKENY. You do not know?

Colonel ERNST. No; I do not know.

Senator TALIAFERRO. Colonel, do you know of any person in this country who was a stockholder or a bondholder in the first Panama Canal Company—the French company?

Colonel ERNST. No; I do not.

Senator TALIAFERRO. There were American stockholders, were there not?

Colonel ERNST. I suppose so. I do not know.

Senator DRYDEN. Have you an opinion, Colonel, as to whether this work should be constructed as it has been by day work or by contract?

Colonel ERNST. Oh, I think clearly that we ought to let out contracts. I do not think there is any difference of opinion about that.

Senator DRYDEN. Is it your view that it should be let in separate contracts or in one entire contract?

Colonel ERNST. I should not undertake to give it in one entire contract. I would divide it up into a number of large contracts. I would not have a very great number of small contracts. I would have a lot of large contracts.

Senator DRYDEN. Do you think that we have to-day sufficient information for the bases of specifications for contracting this work?

Colonel ERNST. I think so, yes; for most of it. There is some further information that would be desired about some features of it.

Senator DRYDEN. What information, if any, is lacking for the bases of such specifications?

Colonel ERNST. Well, I should want some further examinations made—and they are being made, too—about this overflow of that spillway [indicating on map]. This plan provides for a spillway through the dam, and up here [indicating on map] there is an opportunity, perhaps, for another spillway entirely detached from that. There is some low ground in there [indicating on map.] That river runs up here, and this runs up here [indicating], and Mr. Stevens is now engaged on that. He is boring in there and examining in there to see whether we can not make a little improvement on that. So that we should want to go into detail a little more than we have.

Senator DRYDEN. If I am not mistaken, some of the engineers who have testified here have said in effect that in constructing this canal there ought to be leeway allowed for additional light or new discoveries that might be made from time to time as to what should be done. Do you concur in that opinion?

Colonel ERNST. I do; yes, sir.

Senator DRYDEN. Then, would it not result if that is so in rendering it necessary to make new arrangements to some extent with the contractors after the work had been undertaken?

Colonel ERNST. If you let out one contract for the whole job it would; yes. I would not do it that way. I would let out a contract for, we will say, one set of these locks, and another contract for another set of locks, and I would let out a contract for dredging the coastal plane from Limon Bay up to Gatun. That is one class of work separate entirely from lock construction. I would let out another contract over at the other end if we should put that lock at Miraflores as the Secretary of War recommended, and so on. You could divide

that work up into—oh, I do not know how many, but I suppose a dozen large contracts. Each in itself would be a very large contract.

Senator DRYDEN. If you did that, how would you protect the Government against the delays, the expense, and other disadvantages that might arise from the clash of the contractors.

Colonel ERNST. I do not know—

Senator DRYDEN (continuing). As to where the authority and rights of one began and the other ended?

Colonel ERNST. That would have to be definitely known, of course.

Senator DRYDEN. You can see that difficulty can you not?

Colonel ERNST. Yes; it is a thing that has to be guarded against, of course.

Senator DRYDEN. Do you think that you could prepare specifications of such a general character that they would sufficiently guard the interests of the Government and yet when they came to be applied in details would be sufficient to hold the contractor?

Colonel ERNST. Well, I should hope so. I think it would be possible; yes, sir.

Senator MORGAN. If he had a pretty large deposit or bond put up as a guarantee for good behavior—you would have that much, would you not?

Colonel ERNST. Yes, sir. Of course there is going to be great difficulty in dividing up the facilities that we have there—the railroad and the wharves and all that sort of thing; but I think it could be handled.

Senator DRYDEN. In an ordinary commercial enterprise, where the work is done by contract, you are quite aware, no doubt, that almost invariably there are alterations as the work progresses?

Colonel ERNST. Oh, yes.

Senator DRYDEN. Changes in the plans, and consequently in the specifications, which involve new arrangements, rearrangements with the contractor?

Colonel ERNST. Certainly.

Senator DRYDEN. And the contractor generally has the owner at a disadvantage in those matters. Now, in a big work of this kind, could the Government be amply and sufficiently protected against any imposition on the part of the contractors?

Colonel ERNST. I should think so. It seems to me it is possible.

Senator DRYDEN. Of course you recognize that that would be a very important matter?

Colonel ERNST. A very important matter.

Senator DRYDEN. It might make a difference of many millions of dollars in the course of building the canal as to whether the specifications protected the Government or not?

Colonel ERNST. Oh, yes, sir; the payments would probably be so much a cubic yard or so much a unit of volume, whatever it may be, concrete or whatever it is, and the contractor would be paid for what he actually did. It would hardly be necessary, I should think, to make any such radical changes as would change—

Senator MORGAN. The unit of value would account for all additions to the work that might be omitted from the specifications?

Colonel ERNST. You would provide for that.

Senator MORGAN. I say, the unit of value would provide for all additions that might be made to the specifications?

Colonel ERNST. Certainly.

Senator MORGAN. And where changes were made that same unit of value would be a fair test of the added cost or the reduced cost?

Colonel ERNST. I can hardly conceive of letting the contract before you have made up your mind about such general features as that that I have just referred to, that new location for a spillway. That, of course, would involve a great deal of change in the unit price. If you get your material out at that place, it might cost very differently from what it would at Gatun. I would not let any contract until I had made up my mind about such general features as that, as to whether to move it over there or not. I do not see why, having the general outline fixed with a reasonable degree of closeness—

Senator MORGAN. I will ask you the question whether, in your opinion, work to be done by the Government in building this great structure would not, as a rule, be more expensive and more wasteful and harder to direct than if it was done by contract?

Colonel ERNST. Oh, I think that there are very great advantages in doing it by contract. You not only have a very close figure, but you have the advantage of bringing in the contractor's clientele, his crowd, his people. The Government never could get them in any other way at all. Nearly all of these contractors have a set of men that they know, and who know them, and who have been working for them all their lives. They would bring them right into the Government service, and the Government can not get them in any other way. I think there are great advantages in letting out contracts. I do not see any reason why a Government officer in a work on a moderate scale would not do it as well as anybody else, but he has not got the people to carry on a work of this magnitude.

Senator MORGAN. The work done up to date by the Government has been pretty expensive?

Colonel ERNST. Some of it has been; and some of it has been very economical.

Senator DRYDEN. In a contract, of course you could bind the contractor as to the quality of work, as to the cost of the work, founded upon some unit price, and also as to the time of completion?

Colonel ERNST. Yes, sir.

Senator DRYDEN. That, of course, would be a great advantage.

Senator MORGAN. You can control the time by contract.

Senator KITTREDGE. Why do you regard it as advisable to seek another location for a spillway?

Colonel ERNST. I am not sure that it is advisable to do it, but we want to look into that.

Senator KITTREDGE. Where is the spillway located under the present plan?

Colonel ERNST. In that hill between the two branches of the dam. The dam crosses two gulches, you know.

Senator KITTREDGE. Is it in the hill?

Colonel ERNST. Yes, sir.

Senator MORGAN. It is cut right through the hill.

Senator KITTREDGE. In what way is it connected with the Gatun dam?

Colonel ERNST. Well, the Gatun dam consists of two parts, you may say, one on each side of this hill, and this spillway is cut right through the natural ground of the hill.

Senator KITTREDGE. And what is the size of the hill downstream?

Colonel ERNST. I do not think I quite understand the question.

Senator KITTREDGE. What is the width of the hill downstream?

Colonel ERNST. It depends entirely on where you take it.

Senator KITTREDGE. Where the spillway is.

Colonel ERNST. Well, the width of the hill would depend on where you take it. At the crest it is nothing.

Senator KITTREDGE. How did you take it when you located the spillway?

Colonel ERNST. I did not locate it. I can not answer that question, Senator.

Senator KITTREDGE. Do you not know where, with reference to the hill, the spillway is located?

Colonel ERNST. Right in the middle of the hill. Right through the hill.

Senator KITTREDGE. What is the length through the hill, downstream?

Colonel ERNST. Measured on the spillway?

Senator KITTREDGE. Yes.

Colonel ERNST. I do not know. I shall have to refer to drawings for that.

Senator KITTREDGE. Can you ascertain it handily?

Colonel ERNST. I do not know whether it is shown in these maps or not. Of course the thickness of the hill depends upon what level you take it at. The hill is a cone, changing its dimensions at every height.

Senator KITTREDGE. The spillway is near the top of the water level.

Senator MORGAN. That would be about 80 feet, then?

Senator KITTREDGE. About. As I recollect, that is the height of it. I want to know what distance you travel before you run out of the hill?

Colonel ERNST. The bottom of that spillway is at an elevation of 70 feet. The thickness of the hill at elevation 70 would be an answer to your question, would it?

Senator KITTREDGE. Is that the height of the spillway?

Colonel ERNST. Yes; the bottom of it. The spillway has a lip over which the water flows, and there are gates sliding up and down above it—

Senator KITTREDGE. I understand what a spillway is.

Colonel ERNST. The height of this lip is 70 feet.

Senator MORGAN. That would make the water 15 feet deep on the spillway.

Colonel ERNST. It is closed by gates which slide up and down and enlarge or diminish the size of the opening. The bottom of that is at an elevation of 70 feet. The thickness of the hill at 70 feet is, as nearly as I can make it out, here on this map, 100 feet.

Senator KITTREDGE. One hundred feet through the hill?

Colonel ERNST. Yes; at that level.

Senator KITTREDGE. Then how is the spillway constructed after you leave the hill?

Colonel ERNST. Oh, it is sunk clear down into the hill. I thought you asked me the thickness of the hill at the crest of the spillway. Perhaps I can show you better on this section. That is the form of it [indicating on section]. This is earth; this is concrete. There is the crest of the spillway, right there [indicating], and above it are these sliding gates; and the thickness of the hill at that level is 100 feet.

Senator KITTREDGE. How do you control the water in the spillway after it passes the hill?

Colonel ERNST. It flows down over here [indicating on section].

Senator KITTREDGE. In what sort of a structure?

Colonel ERNST. This is concrete—all masonry. It spills over into a triangular-shaped basin, like that, and slides down and is collected and carried off through a channel into the Chagres River.

Senator KITTREDGE. What sort of a basin do you have there?

Colonel ERNST. Concrete; artificial stone.

Senator KITTREDGE. How far is that basin within the limits of the dam up and down stream?

Colonel ERNST. It does not come in the dam at all, Senator; it is in this hill. There is the outline of it, there [indicating on map].

Senator KITTREDGE. Back of the hill, then?

Colonel ERNST. It is right through the hill.

Senator KITTREDGE. Downstream from the hill the two wings of the dam do not touch; is that it?

Colonel ERNST. That is it.

Senator KITTREDGE. How far apart are they?

Colonel ERNST. They are represented right here [indicating on map]. There is the hill; here is the dam, and on this side that slopes down here and slopes that way and this way [indicating on map].

Senator KITTREDGE. In what manner is the water kept from the sides of the dam after leaving the hill structure?

Colonel ERNST. It is carried off in a masonry conduit.

Senator KITTREDGE. To what distance is it constructed of masonry?

Colonel ERNST. That would depend on the site. That is shown here. I should say several thousand feet. It is not defined. That will depend entirely on the necessities of the case at the time of construction.

Senator KITTREDGE. Have not plans been worked out for that?

Colonel ERNST. Not in any more detail than this. This is all that I have, what was furnished by the consulting board.

Senator MORGAN. One question about that hill. That is a sort of sugar-loaf elevation, is it not?

Colonel ERNST. Yes, sir.

Senator MORGAN. Do those things occur frequently in the coastal plane of Panama down there, those uplifts, or sugar-loaf hills?

Colonel ERNST. Yes, sir; there are a good many of them around there.

Senator MORGAN. They are isolated—not connected together by ridges?

Colonel ERNST. Not necessarily; no.

Senator MORGAN. Are they of volcanic origin?

Colonel ERNST. I presume so, originally.

Senator MORGAN. They were thrown up at different places along on that coastal plane by volcanic action?

Colonel ERNST. That I do not know, Senator, whether they were or not.

Senator MORGAN. Have you ever dug into one of them or had them examined to see what their structure was—whether it was rock?

Colonel ERNST. Only these borings. They have gone into a great many of them and they find them to be what they have nicknamed indurated clay, which does not seem to be a very good name.

Senator MORGAN. That means volcanic ash lifted up and compressed afterwards until it was united into hard material?

Colonel ERNST. I really do not know.

Senator ANKENY. You said that you preferred the small contracts; that you thought they were preferable. What is your objection to letting it in one contract, if you could find a person who would take it?

Colonel ERNST. I can not see any way that you can get any competition in letting such a contract as that.

Senator ANKENY. If that were possible and such a contract could be made, one contract for the greater portion of the work, say east or west of that big cut, what is your objection to letting it in one big contract? You say that there would be confusion and embarrassment with small contractors; might not that be obviated by letting the work to a greater contractor? You have given your objections without telling us the remedy.

Colonel ERNST. I do not think I gave that as an objection, Senator. I simply said it was one of the difficulties. I think I said distinctly that that is what I would do.

Senator ANKENY. Let it in small contracts?

Colonel ERNST. Yes, sir; not in small contracts, but a number of contracts.

Senator ANKENY. Twelve or more, you said?

Colonel ERNST. Something like that.

Senator ANKENY. Why do you object to a large one?

Colonel ERNST. I should anticipate very great difficulty in letting any such contract as that. I do not see exactly where you would get any competition. I do not see but what you would have to bind yourselves completely in advance as to every detail.

Senator ANKENY. There is the same objection to a small contract, is there not?

Colonel ERNST. Not to so great an extent. Those are my principal objections. I should think a contract like that, left to any syndicate, would be putting immense power into the hands of somebody that was not in the interest of the United States.

Senator ANKENY. That is your objection to letting it in large contracts?

Colonel ERNST. In one single contract, yes.

The CHAIRMAN. I believe that is all, Colonel Ernst, and we are very much obliged to you, sir.

(The committee thereupon adjourned until to-morrow, Tuesday, March 27, 1906, at 10.30 o'clock a. m.)

ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Tuesday, March 27, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Hopkins, Ankeny, Morgan, Taliaferro, and Simmons.

STATEMENT OF BRIG. GEN. PETER C. HAINS, U. S. ARMY (RETIRED).

The CHAIRMAN. Please give your full name and residence, General.

General HAINS. Peter C. Hains; Washington, D. C.

The CHAIRMAN. And your military position, and your present duties?

General HAINS. At the present time I am a brigadier-general of the United States Army, on the retired list, and a member of the Isthmian Canal Commission.

The CHAIRMAN. You are an army engineer?

General HAINS. I have been an army engineer for about forty-two years. I am not an army engineer now.

The CHAIRMAN. You ought to be an army engineer by this time—a retired one.

General HAINS. No, sir; I was promoted to be a brigadier-general in the line.

The CHAIRMAN. Yes?

General HAINS. I was transferred from the engineers in April, 1903, to be a brigadier-general in the line.

The CHAIRMAN. Were you a member of the Walker Commission, the first Commission?

General HAINS. The Commission of 1899-1901; yes, sir.

Senator MORGAN. You are still on the active list, I believe?

General HAINS. No, sir; I have been retired.

The CHAIRMAN. You were a member of the committee that was sent down to the Isthmus in the fall, were you not; and you signed the minority report?

General HAINS. You mean in 1901?

The CHAIRMAN. No; at this time; this report.

General HAINS. This last report?

The CHAIRMAN. Yes.

General HAINS. Yes, sir.

The CHAIRMAN. General, we would like to have your judgment in regard to these two types of canal, if you will be kind enough to give it to the committee; your opinion in regard to the different types and why you prefer one over the other.

General HAINS. I have a memorandum here, Senator, of some reasons why I prefer the lock canal to the sea-level canal, and I will state them briefly and endeavor to elucidate some of the points that were treated only in a brief manner in our report. I think our report covers nearly everything that has any influence with me, but there are details about that—that is, there are matters in connection with some of the points that are not referred to in detail.

Senator MORGAN. What report do you refer to, General?

General HAINS. I mean this last report, submitting the two reports of the Consulting Board.

Senator MORGAN. Of the Consulting Board?

General HAINS. Yes, sir.

Senator MORGAN. You were with the minority on that report?

General HAINS. Yes, sir. Before doing that I would like to make one statement in regard to Professor Burr's testimony. General Ernst referred to it yesterday. Professor Burr states that the recommendation made by the Isthmian Canal Commission of 1901 was largely for the tentative purpose of making a comparison between the Nicaragua and the Panama routes. Of course I do not know anything about what controlled Professor Burr, whether he regarded our project as tentative or not, but I did not regard it as tentative.

Senator MORGAN. You speak now of the project for a dam at Bohio?

General HAINS. Yes, sir; the project that was submitted by the Commission of 1901.

Senator MORGAN. Yes; that is the Commission of exploration and examination?

General HAINS. Yes, sir; what you call the Commission of exploration; and we state in our report the reason why we rejected the sea-level canal, and we state it in this way, on page 88 of that report: "That this Commission concurs with the various French commissions which have preceded it since the failure of the old company in rejecting the sea-level plan, and while such a plan would be physically practicable, and might be adopted if no other solution were available, the difficulties of all kinds, and especially those of time and cost, would be so great that a canal with a summit level reached by locks is to be preferred."

That was my opinion at that time, and I supposed that that was practically the opinion of all the others, because we all signed it.

Senator MORGAN. That is your opinion yet?

General HAINS. That is my opinion still.

Senator KITTREDGE. Right at that point, General: The plans of the old French company were for a sea-level canal?

General HAINS. Yes, sir. You mean the first company?

Senator KITTREDGE. I mean the old De Lesseps company.

General HAINS. Yes, sir.

Senator KITTREDGE. And when was the change made?

General HAINS. The change was made after the failure of the De Lesseps company to complete that canal.

Senator KITTREDGE. And the organization of what is known as the New Panama Canal Company?

General HAINS. Yes, sir.

Senator MORGAN. No; I beg to call attention to the fact that the change was made while the receiver of the old company had charge of it and before the new company was organized.

General HAINS. Yes; the first commission or board was what was called the Comité d'Etudes.

Senator MORGAN. That was organized by the receiver?

General HAINS. By the receiver.

Senator MORGAN. And they recommended the change?

General HAINS. They recommended a lock canal.

Senator KITTREDGE. Why did they do that, General?

General HAINS. I think it is pretty hard to say what all of them may have had in their minds, and I do not know that I can answer for any of them.

Senator KITTREDGE. Was not the reason the fact that they became short of money?

General HAINS. I think, perhaps, that was one reason.

Senator KITTREDGE. Was not that the reason, and does it not so appear of record?

General HAINS. No, sir; not according to my understanding.

Senator KITTREDGE. What is your understanding of the situation?

General HAINS. My understanding was that they found that they had a more difficult problem before them, and they learned more about it, and it was advisable not to try to carry it on because it was going to cost too much for any private corporation to complete.

Senator KITTREDGE. Then, it was a question of cost?

General HAINS. Partially.

Senator KITTREDGE. Rather than of feasibility?

General HAINS. Well, no; I can not say that. I do not know what they had in their minds, but the question of cost doubtless was one of the reasons.

Senator KITTREDGE. Was it not the reason?

General HAINS. I do not understand that it was the only reason.

Senator TALIAFERRO. Were not the questions of cost and of time the reasons that influenced you to prefer the high-level canal?

General HAINS. Not entirely. Those are two principal reasons.

Senator KITTREDGE. The controlling reasons?

General HAINS. They are the strongest reasons.

Senator KITTREDGE. Are they controlling?

General HAINS. No, sir; they are not controlling; that is, they do not control it alone. There are other strong reasons.

Senator MORGAN. General, you have examined these maps that we took over from the French Canal Company?

General HAINS. Yes, sir.

Senator MORGAN. Have you found among those, from the beginning of the first operations upon the canal, any actual survey accompanied with borings that would take the work down to a sea-level canal?

General HAINS. Among those?

Senator MORGAN. Yes; actual surveys with borings?

General HAINS. They had a number of borings, Senator, that went down as deep as would be necessary for a sea-level canal, but not many.

Senator MORGAN. As deep as would be necessary for a sea-level canal down to the bottom of the canal prism?

General HAINS. I do not think they had enough to base a project on.

Senator MORGAN. Did De Lesseps while he was in charge of that work ever have a complete or sufficient instrumental survey with borings for the purpose of determining the practicability or the cost of a sea-level canal?

General HAINS. When they started on the work there they did not.

Senator MORGAN. Very good. When was the first approximation to such a thing as that attempted by the French engineers?

General HAINS. During the time the French were at work they began surveys.

Senator MORGAN. Yes.

General HAINS. And they continued them clear up to the time of the report, or somewhat near the time of the report of the technical committee in 1898.

Senator MORGAN. They began the survey and the work at the same time?

General HAINS. Yes, sir; I think so.

Senator MORGAN. The survey did not precede the works?

General HAINS. Well, they made examinations.

Senator MORGAN. I know, they made examinations, but I am talking about a thorough survey of location, cost, dimensions, and all that.

General HAINS. A thorough survey was not made until afterwards.

Senator MORGAN. Was a thorough survey made while the receiver had the property in charge, and before the organization of the New Panama Canal Company?

General HAINS. I can not answer that question positively, from my own knowledge, but I do not think they ever had sufficient surveys then.

Senator MORGAN. It was upon what was known by the engineers and reported by the engineers that the Comité d'Etudes predicated their decision under the auspices or authority of the receiver. The Comité d'Etudes did not make any surveys themselves?

General HAINS. I am not sure whether they made any surveys or not.

Senator MORGAN. I think I can assure you that there is no evidence that they ever did.

General HAINS. Yes.

Senator MORGAN. If that is so, then up to the time that this Comité d'Etudes made their recommendation in favor of a lock canal the sea-level plan had never been worked out or projected as an engineering scheme upon a working scale?

General HAINS. Well, I can not say that exactly, Senator. That may be so.

Senator MORGAN. When the New Panama Canal Company came in did they attempt even to make a survey for a sea-level canal?

General HAINS. I do not think they did. They decided to build a canal with locks.

Senator MORGAN. They adopted the recommendation of the Comité d'Etudes, and went on to work it out?

General HAINS. Yes, sir.

Senator MORGAN. And the Comité d'Etudes had projected a lock-level canal—a level at what height above the level of the sea?

General HAINS. They considered several levels. I do not remember now.

Senator MORGAN. It was 90 feet or 95 feet, or something like that?

General HAINS. I do not remember.

Senator MORGAN. It was a high level?

General HAINS. They considered various levels.

Senator MORGAN. It was a high level, one of the highest proposed by anybody except Bunau-Varilla.

In regard to surveying there and examining this matter under the exploration commission, then, you took, necessarily, the French surveys as the basis of your calculations. You did not have time to make any extended surveys?

General HAINS. You say the first surveys. We took all the surveys that the French had made.

Senator MORGAN. I say you took all that they had made.

General HAINS. Yes, sir.

Senator MORGAN. But you predicated your conclusions very largely and almost entirely upon French surveys, first and last?

General HAINS. Yes, sir.

Senator MORGAN. Then you added to that some borings at Bohio and some at Gatun?

General HAINS. Yes, sir.

Senator MORGAN. But you did not undertake to bore out the axis of the canal across to Panama?

General HAINS. No, sir.

Senator MORGAN. That was the situation in which the engineering stood at the time the committee of exploration under Walker examined and made their report to the President.

I merely wanted to bring those facts out, so that we could get the historical connection between the surveys.

Senator DRYDEN. Is that all that you wish to ask, Senator?

Senator MORGAN. That is all that I wanted to ask the General now.

Senator DRYDEN. I wanted to ask you a question. Referring back to your testimony of a few moments ago, you stated in effect that while you deemed the items of cost and time which would be involved in the construction of a sea-level canal as of importance, yet they were not controlling in your mind in leading you to the selection of the lock canal. Will you state what other reasons there were besides those of length of time and cost which led you to recommend a lock canal?

General HAINS. The engineering difficulties, partly; and the fact that I do not think the sea-level canal recommended by the consulting board is as good a canal as the other one.

Senator DRYDEN. Do you mean by that to state that if the two types of canal cost the same amount of money and would consume the same amount of time in construction you would still prefer the lock canal?

General HAINS. Well, I think I would still prefer the lock canal, even though the cost was about the same.

Senator DRYDEN. What other element or what other features would be involved, in your mind, in favor of the lock canal?

General HAINS. Well, Senator, there are various things, and I think if you will allow me to state them in the sequence in which I have them here perhaps I shall bring them out clearly to you.

Senator DRYDEN. In your own way, certainly.

Senator MORGAN. That question now brings out all the statements that he wishes to make.

The CHAIRMAN. You have a statement prepared, have you, General?

General HAINS. No, sir; I have not a statement. I have merely some notes here.

The CHAIRMAN. I think it would be well under the circumstances,

to let the General go ahead with his statement, and when he gets through we can question him.

Senator DRYDEN. Certainly.

General HAINS. I have made some notes here of points that I wish to bring to the attention of the committee.

The CHAIRMAN. Yes. Proceed and make your statement as you have it in your mind, and the members of the committee will then ask you a few questions later on.

General HAINS. In respect to the time: The part of the work that determines the time needed to construct the Panama Canal is the Culebra cut. This cut has a length of 13 kilometers (equal to about 8 miles), and the amount of material to be excavated from it for the sea-level plan is, according to the estimates based on the plans and sections of the advisory board, about 110,000,000 cubic yards.

Senator MORGAN. Let me ask you, right there: Between what points do you locate what you call the Culebra cut?

General HAINS. It is near Obispo; just above Obispo. It is along about here [indicating on map], right near Obispo. It is about 8 miles.

Senator MORGAN. To Miraflores?

General HAINS. Not as far as Miraflores, but about to Pedro Miguel. There is 8 miles [indicating on map], and it is just about that distance. I could show you better from the profile.

Senator MORGAN. I do not care for the exact figures, but speaking generally it is between Obispo and Pedro Miguel?

General HAINS. Yes, sir. Of this amount of 110,000,000 cubic yards, 77,000,000 cubic yards is classed as rock, and of this rock more than 15,000,000 cubic yards is below the level of high tide in the Pacific Ocean. The depth of the cut from the natural surface on the axis of the canal is about 374 feet and the line of intersection of the slope of the cut with the slope of the ground at the highest point is over 600 feet. That would be about in here [indicating on map]. The old land came about like that [indicating].

Senator MORGAN. Do you mean as it is now, or as it will be?

General HAINS. No, sir; I mean originally.

Senator MORGAN. You mean, down to the bottom of the canal?

General HAINS. I mean the depth down to the level of the water would have been 370 feet.

Senator MORGAN. The ocean level?

General HAINS. Yes, sir.

Senator MORGAN. Then the canal would be 40 feet deeper than that, if it was constructed on the plan?

General HAINS. Yes, sir. And the line of intersection of the slope of the cut with the slope of the ground at the highest point is over 600 feet. A cut of this magnitude is without precedent. Nothing like it has ever been done, and that is another reason that led me to favor the lock canal.

Senator MORGAN. Do you mean the slope would be over 600 feet long?

General HAINS. Yes, sir.

Senator KITTREDGE. Is that the engineering difficulty that you mentioned?

General HAINS. That is one. If the material were equally distributed along the entire length of the cut the task of removing it, within

such limits of time and cost as will meet the reasonable expectations of the country, would be formidable.

Senator MORGAN. Right there let me ask you: You measure that slope at 600 feet; do you mean that takes it down to sea level, or below sea level?

General HAINS. That takes it down to sea level.

Senator MORGAN. It would be 640 feet, then, to the bottom of the canal, if the canal was 40 feet deep?

General HAINS. Yes, sir; it is about that. It is not exactly that. You can not tell just exactly where that land comes in. It is, you might say, somewhere about 600 feet.

Senator MORGAN. That is an estimate?

General HAINS. Yes, sir.

Nearly one-third of the entire amount, viz., about 32,000,000 cubic yards, is concentrated within the length of 2 kilometers, about $1\frac{1}{2}$ miles. The concentration of so much excavation within this limited space renders it impracticable to attack it simultaneously from many points. As a consequence, the time needed to complete this particular portion determines the time for completing the whole.

It is generally conceded that the surest and best method of excavating the Culebra Cut is by means of steam shovels or excavators, working, whenever practicable, in the dry and loading the spoils into cars, by which it is transported to suitable dumping grounds, but the difficulties of determining the best arrangement of excavators and car tracks for excavating this part of the cut, the uncertainty that any definite plan can be advantageously carried through without change, and the intricate nature of the problem itself, have failed to be convincing when critically studied. These estimates of time have often been little better than the offhand opinions of experts who are familiar with that class of work, but who have not formulated a definite project for its accomplishment. It is an intricate problem at best, not solved by multiplying the capacity of one excavator on similar work by the number of excavators that it may be assumed can be advantageously employed.

The number of steam shovels that can be profitably worked simultaneously on this section is limited, the difficulties of laying tracks so that the excavators may work continuously are great, the necessity of steep grades or long approaches to reach the various elevations complicates the problem of transportation, the material in the higher parts of the cut is such that it can not be excavated in the wet season to advantage, the lack of dumping grounds in the vicinity, and the frequent stoppage of work due to torrential rains all tend to render calculations as to daily or yearly output uncertain. To some extent this is true of a cut of less depth than that necessary for a sea-level canal, but in a far less degree.

The problem of excavating 50,000,000 cubic yards of material, all above water, is far less difficult to solve than is the problem of excavating 110,000,000 cubic yards, much of it below water. Whatever lessens the magnitude of the work reduces to a greater or less extent the uncertainties of its accomplishment within a specified time. All the high-level projects have been designed with a special view to reducing the magnitude of this cut. If it can be lessened 50 per cent, the task is not only rendered less difficult, but the time and uncertainty of its accomplishment are proportionately reduced.

The excavation of the 15,000,000 cubic yards below water will require different treatment from that above that level, but how it can best be done has never been definitely determined.

The chief engineer of the Nouvelle Panama Canal Company formulated a well-defined plan for excavating this cut for a canal 112 feet wide on the bottom and with a summit level of about 97 feet. The amount of material to be removed, however, from the deep part of the cut was only about 13,500,000 cubic yards as compared with 32,000,000 cubic yards in the sea-level project.

The estimated time for making it of these reduced dimensions was nine years.

No one will question the engineering ability of Mr. Louis Choron, the chief engineer of the Nouvelle Panama Canal Company, who made this estimate of time, nor will any reasonable person question the fact that there were many reasons why the Nouvelle Panama Canal Company should desire to make this estimate as small as possible and none for making it large. Mr. Choron's assumed average output per steam excavator per day of ten hours for each working day of the year was 444 cubic yards—only a few cubic yards less than the average on the Chicago Drainage Canal.

On the Isthmus, the work being done most of the time under Chief Engineer Wallace, with nine modern American steam shovels, the total output for the nine shovels between February 1, 1905, and July 1, 1905, was 386,185 cubic yards. The number of excavator days made during this time was 714, and the daily average yardage was 541 cubic yards.

On the Chicago Drainage Canal, the largest work of its kind ever undertaken in this country, a work which all will admit was done rapidly, economically, and judiciously, located in a favorable climate, with ideal material to be excavated, abundant labor of all kinds available, located at the very threshold of a base of operation, its dumping grounds alongside within a very few feet, so that the problem of transportation was the simplest and every other condition favorable, yet the average output per steam shovel on that work was 575 cubic yards per shovel per day of ten hours. On the Isthmus the conditions are reversed. Under the circumstances is it safe to assume that the output per shovel on the Isthmus can be reckoned at nearly double what was accomplished on the Chicago Drainage Canal?

I think the time that has been estimated for the excavation of the sea-level canal is very much underestimated.

Senator MORGAN. Before you reach another proposition, I want to ask you one question that strikes my mind: I suppose from the map that is spread out before us, the bottom parallelogram there represents the prism of the canal?

General HAINS. The blue one is the prism accepted for making the estimate for the sea-level project.

Senator MORGAN. Yes.

General HAINS. The red one is the cross-section taken for estimating the lock-canal project.

Senator MORGAN. Yes; the bottom one represents the sea-level and the one above it represents the lock canal?

General HAINS. Yes, sir.

Senator MORGAN. I notice that there is quite a difference in what I will call the steepness of the cuts between the two.

General HAINS. Yes, Senator; I will refer to that matter.

Senator MORGAN. You will refer to that?

General HAINS. Yes, sir.

Senator MORGAN. Very good. I will not ask you any question about it, then.

General HAINS. The cost of maintaining that canal, it seems to me, can only be properly estimated by considering the interest on the extra amount of money invested in the work; and if this be considered, it is readily seen that the cost of maintenance will be far less for the lock canal than for the sea-level canal. That is another reason why I prefer the lock canal.

There are to-day, according to the report of the majority, 322 ships having a beam of from 65 to 85 feet.

Senator MORGAN. In the world?

General HAINS. Yes, sir. There are 183 having a beam of over 70 feet, and there are 82 that have a beam of over 75 feet. There are 82 ships afloat now that have a beam of 75 feet or upward.

Senator DRYDEN. Those are ships throughout the whole world?

General HAINS. Yes, sir; throughout the whole world.

Senator TALIAFERRO. Did you get the draft of those ships that you are speaking of at the same time?

General HAINS. Not all of them; no, sir. We have got the draft of the largest ships. I can give you the draft of about ten of the largest ships in the world, presently, if you would like to have it.

Senator TALIAFERRO. I suppose that your purpose there in giving the sizes of the beams of those ships that you have just spoken of is to show the difficulty that they would have in passing each other in the narrow channel of the sea-level canal?

General HAINS. What I want to show is that the canal is too narrow; that the sea-level canal as proposed by the majority of the Consulting Board is a canal that is too narrow, and therefore it is not the kind of a canal that they seem to refer to as being what was required by Congress.

Senator SIMMONS. The draft is sufficient, General, and that is the reason you have not taken into calculation the draft of these vessels, is it not?

General HAINS. Well, I have made a little sketch——

Senator SIMMONS. I mean the depth of the sea-level canal is sufficient, and therefore you have not taken into this calculation the draft of the ships?

Senator TALIAFERRO. But, Senator, the width of the canal is very different on the top from what it is on the bottom, and it only requires the deepest draft vessels to observe the bottom lines of the canal in navigating the canal. For instance, a vessel drawing 25 feet of water would go very much nearer the shore of the canal than a vessel drawing 30 feet of water.

General HAINS. Oh, yes.

Senator TALIAFERRO. And it is for that reason that I think the draft should go with the beams of those ships in order to make your illustration perfect.

General HAINS. I will come to that presently, in referring to the depth of the canal. The depth of the lock canal is 5 feet greater than that of the sea level.

Senator KITTREDGE. Where?

General HAINS. Throughout its whole length.

Senator KITTREDGE. Is it 5 feet deeper through the Culebra cut?

General HAINS. Yes, sir.

Senator MORGAN. Do you mean as a matter of measurement?

General HAINS. I mean the canal is dug 5 feet deeper. The sea-level canal is 40 feet deep. The lock canal is no where less than 45 feet deep.

Senator TALIAFERRO. Including the locks?

General HAINS. No, sir; between the locks on one side and the locks on the other. The entrances in both cases are the same depths.

Senator TALIAFERRO. What is the width of the sea-level canal on the top?

General HAINS. At what point? It all depends on the place.

Senator TALIAFERRO. At that part of the canal where it is 150 feet at the bottom?

General HAINS. The width at the top there would be—it would add over 200 feet. It depends on the slopes. They have made the slopes one on two in some cases, and one on three, I believe, in others. If the slopes are one on two—is that what it is, Major?

Major HARROD. One on two, except through the harbors, where it is one on three.

General HAINS. Yes; one on two. That adds four times forty, which is 160 feet, and that would make the canal 310 feet wide on the surface.

Senator MORGAN. We have a map of it there, and can get the measurements exactly from that?

General HAINS. Yes, sir.

Senator MORGAN. The measurements of both the sea-level canal and the lock canal are shown upon that diagram, I suppose?

General HAINS. Yes, sir.

Senator MORGAN. So that we can get it exactly from that?

General HAINS. You can not get the width on the surface from that, Senator, and that is what the question was. Those are the bottom widths shown on that map.

Senator MORGAN. Oh!

General HAINS. The widths on the surface would be considerably greater where there is a slope.

Senator TALIAFERRO. Taking the average vessels that you think would pass through either of these canals, if constructed, would there be any difficulty in vessels of average size passing each other in the sea-level canal?

General HAINS. No, sir; not of the average size; but the law under which this canal is to be built does not call for the average vessel.

Senator TALIAFERRO. No; but I merely asked for your view as to the practical operation of the canal.

General HAINS. Oh, yes, sir; that is correct. It will thus be seen that it is impossible for eighty-two ships of the world to pass each other safely in the narrow part of the canal; that is, in the 150-foot part.

Senator MORGAN. Of the sea-level canal?

General HAINS. Yes, sir; of the sea-level canal. If two large ships were coming in opposite directions one would have to wait at some place near the end of the canal until the other passed. Would a canal subject to such restrictions fairly meet the views of the board as expressed in the following paragraph:

"The vastness of the interests to be served by the canal, many of which interests now wait for their development on the construction of the waterway, demands that the canal shall, when opened for traffic, be of the type which will most perfectly fulfill the purposes which the waterway is intended to accomplish."

Senator DRYDEN. As you go along, General, I want to understand you, and I think I misunderstood you a moment ago. You made a statement to this effect: That if two large vessels had to pass each other one of them would have to wait at the entrance of the canal before the other could pass, as I understood you?

General HAINS. It would have to wait at some other place—at a wide place.

Senator DRYDEN. You did not mean that it would have to wait outside, in the bay?

General HAINS. Oh, no, sir. I did not mean out there. There are places at each end of the canal where they could wait, or they might wait in the Culebra cut.

Senator DRYDEN. That is all that I wanted to ask.

General HAINS. It is to be noted that the narrow part of the canal—that is, of the sea-level canal—is the part where the current will be the swiftest. That is this part right down here [indicating on map].

Senator TALIAFERRO. Is that on the Pacific side?

General HAINS. No, sir; that is on the Atlantic side.

Senator TALIAFERRO. Have you not more current to deal with on the Pacific side than you have on the Atlantic side?

General HAINS. In the sea-level canal?

Senator TALIAFERRO. Yes.

General HAINS. No, sir.

Senator TALIAFERRO. Is there not a rise of tide of 8 or 10 feet more on the Pacific side than on the Atlantic side?

General HAINS. Yes, sir.

Senator TALIAFERRO. Is not that what makes your currents?

General HAINS. No, sir.

Senator TALIAFERRO. What makes the currents?

General HAINS. The discharge of the Chagres River into the canal.

Senator TALIAFERRO. I did not understand that the Chagres River was discharged into the canal.

General HAINS. Under the sea-level project?

Senator TALIAFERRO. Yes.

General HAINS. Yes, sir; it is discharged into the sea-level canal. There is a dam to be built at Gamboa to regulate that discharge; but that water has got to be discharged, and under the plans of the sea-level canal it has got to be discharged into the canal.

Senator TALIAFERRO. It flows in very gently from this dam. It does not go in with a rush—I mean, under that plan?

General HAINS. Not so very gently, Senator. It has got to come down within a short distance here; from there [indicating on map] it comes down into the canal, and the fall——

Senator SIMMONS. What is the descent in that distance?

General HAINS. When the lake is at its maximum it will be about 170 feet.

Senator SIMMONS. What is the distance down?

General HAINS. As I remember it, I think it will be something less than a mile, or about a mile. One hundred and seventy feet fall in a mile is a pretty good fall.

Senator TALIAFERRO. Does not the recommendation of the Board of Consulting Engineers provide that that Chagres water shall be divided, and shall empty into the canal in each direction?

General HAINS. I do not understand that any arrangements are made to make it flow in each direction; but I do suppose that perhaps a part of it will go toward the Pacific.

Senator MORGAN. That depends on the slope of the bottom?

General HAINS. No, sir; it will depend on the slope of the surface.

Senator MORGAN. Of the surface of the canal?

General HAINS. Yes, sir; of the surface of the water at the time.

Senator MORGAN. At the time?

General HAINS. Yes, sir. There is no exit for any large amount of water on the Pacific side provided. There is a spillway there, but it is not contemplated to discharge very much water in that direction.

Senator KITTREDGE. Do you understand, General, that nothing is done to break the fall of the water from the Gamboa dam into the canal?

General HAINS. No, sir; I do not understand that.

Senator KITTREDGE. What is your understanding about it?

General HAINS. I understand that they are to put a sort of an arrangement of steps to break the velocity.

Senator KITTREDGE. Would that have that effect?

General HAINS. It will to some extent; yes, sir.

Senator KITTREDGE. Do you understand that the water coming from the Gamboa dam is to be introduced directly into the prism of the canal?

General HAINS. I do not understand what you mean by "directly." If you mean that it is to be just tumbled into the canal, without any means for correcting the velocity of the flow, it would destroy the canal, and of course that is not intended.

Senator KITTREDGE. What is planned, as you understand it?

General HAINS. It is intended to have some arrangement for reducing the velocity.

Senator MORGAN. Successive terraces of stone?

General HAINS. Yes, sir.

Senator MORGAN. In steps leading from the dam down into the canal?

General HAINS. And finally a weir for it to pass over.

Senator KITTREDGE. Is it not first discharged into a basin, and then passed out over a weir into the canal?

General HAINS. That has never been worked out, sir, that I know of.

Senator KITTREDGE. Is not that the plan contemplated by the majority?

General HAINS. I do not know that it is.

Senator KITTREDGE. Is not that a feasible proposition from an engineering standpoint?

General HAINS. It is a thing that perhaps will want to be done—something of that kind.

Senator KITTREDGE. It is entirely feasible, is it not?

General HAINS. Oh, yes, sir.

Senator MORGAN. You could not put your weir nearer to Gamboa than about Gigante, could you?

General HAINS. The water from the lake will come down in a trench, you may say, that is to be excavated, and there are to be terraces arranged to break its force.

Senator MORGAN. Yes.

General HAINS. That is what I understand the advisory board to intend; and then there will be a weir along down close to the line of the canal, over which it will pour in a comparatively thin sheet.

Senator KITTREDGE. Creating what strength of current?

General HAINS. Nobody knows.

Senator KITTREDGE. How swift a current is proper to be introduced into the prism of the canal and not interfere with shipping?

General HAINS. That is a matter of opinion. In the Suez Canal they have nearly 2 miles per hour, I believe, at times.

Senator KITTREDGE. Does that interfere with shipping?

General HAINS. Not there, to any great extent.

Senator KITTREDGE. Would it in this canal?

General HAINS. In that particular part I do not think it would; but down in the narrow part I think it would.

Senator KITTREDGE. Why do you say that water introduced into the prism of the canal in the manner you now suggest would flow toward the Atlantic rather than the Pacific?

General HAINS. You have a lock over on the Pacific side, and you have to use that lock.

Senator KITTREDGE. How much of the time?

General HAINS. Practically all of the time. I am coming to that after a while, to show that I do not believe that that lock can be kept open half the time, as is claimed. It is claimed that it can be kept open half the time, and I do not think it can be done.

Senator MORGAN. You mean the sea-gate?

General HAINS. Yes, sir; I mean on the Panama end.

Senator MORGAN. The sea-level canal at all times must be prepared to receive the normal flow of the Chagres River and to take care of the flood flow, whatever that may be, when it may occur, if I understand the situation. The Chagres River at its normal flow will be at all times entering into the sea-level canal?

General HAINS. Yes, sir.

Senator MORGAN. And at flood tide it will be taken care of by regulating works?

General HAINS. Yes, sir.

Senator MORGAN. That is what I wanted to know.

General HAINS. Yes, sir; that is right.

Senator KITTREDGE. Before leaving the question of width of the canal, how does the width of the Panama Canal as proposed by the majority of the board of consulting engineers compare with the width of the Suez Canal?

General HAINS. Oh, it is wider. The Suez Canal is a little over 100 feet wide; I think it is 112 feet wide now.

Senator KITTREDGE. At the surface?

General HAINS. I do not think that is so much of a point, Senator. It is the width of the bottom that controls.

Senator KITTREDGE. It does for ships of deepest draft.

General HAINS. I am speaking of this canal for ships of the deepest draft. That is the object of making this canal so deep. If you are only going to accommodate ships of the ordinary draft, there is no necessity for spending so many millions of dollars down there at all. We can save a great many millions in that event.

Senator KITTREDGE. Do you remember the depth of the canal at Suez?

General HAINS. Yes, sir.

Senator KITTREDGE. What is it?

General HAINS. About 29½ feet; and they are deepening it now to about 32.

Senator KITTREDGE. Are they having serious trouble with traffic in the meeting of boats?

General HAINS. The largest vessels do not go through there.

Senator KITTREDGE. How many do not go through?

General HAINS. I can not tell you how many, but there are quite a number of vessels that can not go through there on account of their draft. I do not know whether vessels of deeper draft go through there now, but until quite recently no vessel drawing more than 27 feet was allowed to go through that canal.

Senator MORGAN. And no sailing ship ever goes through it?

General HAINS. That I do not know; but 27 feet was the maximum draft of any vessel they allowed to go through there at all. Now, we are going to have vessels drawing 38 feet.

Senator KITTREDGE. What ship do you refer to?

General HAINS. I refer to two ships—the *Mauritania* and the *Luisitania*.

Senator KITTREDGE. What is the length of those ships?

General HAINS. Eight hundred feet, I think it is—yes, sir; 800 feet.

Senator ANKENY. Are those the new Cunarders, General?

General HAINS. Yes, sir. I have this sketch that I would like to show you, showing how easily they can pass each other [exhibiting picture]. There is a sketch showing how they pass each other.

Senator KITTREDGE. The statement was made here the other day, in connection with the draft of those ships, that they were to draw 36 feet.

General HAINS. Thirty-six feet draft? I have a letter here from the agent—

The CHAIRMAN. General, right there, what is the width of this canal that you show here with these two ships in it; is it the sea-level canal or the lock canal that you have the ships in now?

General HAINS. That drawing shows them passing each other in the sea-level canal.

The CHAIRMAN. It shows them in the sea-level canal?

General HAINS. Yes, sir.

Senator DRYDEN. And are they passing as far apart from each other as it is possible for them to do in the sea-level canal?

General HAINS. That is drawn so that they are as close together as 5 feet. You can jump from one to the other; and I do not believe that two big ships of that kind can move at all within 5 feet of each other safely.

Senator DRYDEN. That was not quite my question, General. I think you did not quite understand it. I asked you if they were drawn so as to pass as far apart from each other as possible.

General HAINS. Yes, sir; they touch the ground on each side.

Senator SIMMONS. General, I notice that on the line here at the bottom you have them a little up the slant.

General HAINS. Yes, sir. The canal at the bottom is only 150 feet wide. These vessels are 88 feet wide each, so that if you doubled that, if they drew the full length of the canal, they could not pass at all.

Senator SIMMONS. That would bring them both within those two black lines?

General HAINS. Yes, sir.

Senator SIMMONS. There would not be room for them to pass at all?

General HAINS. This being the slope on which the canal is built they would just about touch the ground there when they are 5 feet apart.

Senator SIMMONS. This would be about 38 feet at that point [indicating]?

General HAINS. No; that would be about 37 feet. This would be 38 down here.

I want to say one thing more about this. Thirty-eight feet is the draft that has been given by the agent of the company in a letter. Thirty-eight feet in salt water means over 39 feet in fresh water, and the sea-level canal is going to have fresh water in it, even in that part of it, a good deal of the time, so that 38 feet does not tell the whole story.

Senator DRYDEN. Would so small a margin as practically 1 foot in the depth be safe for a big vessel?

General HAINS. I should say it was very unsafe.

Senator KITTREDGE. General, do you remember whether the report of the majority of the Board of Consulting Engineers contemplates the construction of passing places?

General HAINS. I remember that the Consulting Board makes no provision whatever for passing places.

Senator KITTREDGE. Is that a difficult proposition from an engineering standpoint?

General HAINS. Is it a difficult one?

Senator KITTREDGE. Yes.

General HAINS. No, sir; not at all difficult.

Senator KITTREDGE. Does it involve much extra expense to construct passing places?

General HAINS. Yes, sir; it involves considerable expense. I think I have something covering that right here in these notes.

Senator MORGAN. Suppose we let the General go on and make his statement right through.

The CHAIRMAN. I think that would be much better, and we would get along faster.

Senator MORGAN. We are breaking in on it and getting it confused.

The CHAIRMAN. General, if you will go right along from where you left off, and finish your statement, we will be glad to hear you.

General HAINS. Yes, sir; I think that would be the better way, and then you can come back.

It is to be noted that the narrow part of the canal referred to is the part where the current will be the swiftest. Under the plans of the Board, the waters of the Chagres River, as well as its tributaries, are taken into the canal, and may often produce a velocity of nearly 4 feet a second. Moreover, the part of the canal where this takes place is the part that has the greatest amount of curvature. That is that part down there [indicating]. This, together with the swift current, will render it sufficiently difficult for a single one of these large ships to be safely managed, even though she have the entire canal to herself. The canal, if subject to such restrictions, would inevitably be deemed inadequate, and its widening demanded.

It is further to be noted that this narrow part of the canal is in cutting, which consists largely of material easily abraded by the current, the result of which would cause a flattening of the slopes and shoaling on the bottom.

In the Suez Canal there are numerous passing places between Port Said and Ismailia, a distance of 47 miles, which is just about the length of this canal. There are 14 passing places in that distance.

The tendency of any stream to establish a tortuous course as a part of its regimen is a well-established hydraulic proposition. This tendency is much increased if it flows between banks of erosive materials, and if it receives sediment-bearing tributaries. It is submitted that this part of the canal must, therefore, be considered as partaking of the characteristics of a sedimentary river, under which it will establish, in time, its own regimen. It is not predicted that it will form the large sinuosities of a sedimentary river flowing through an alluvial plain, but that it will establish sufficient indirections of course and currents to render it unnavigable, as a canal 150 feet wide, for ships of the dimensions for which the law directs that provision shall be made.

A tributary discharging a few thousand second-feet in flood into a channel of about 8,000 square feet cross section will present an obstacle which ships can not pass without being deflected from their courses and thrust against the opposite bank. This is an immediate difficulty, but in time this influent tributary, working during low stages and in floods, will deposit a cone of sediment at its mouth and will erode the opposite bank. This erosion of one bank will be followed by an erosion of the other bank at a point lower down and the deposition of the eroded material in the bed of the canal. This is the law of flowing water carrying sedimentary material; and in this way the alignment of the canal will be impaired and indirection of course and of currents established which will ultimately prove obstructive to navigation.

Senator KITTREDGE. May I interrupt you right there? What is the character of the material right opposite the Gamboa dam?

General HAINS. Oh, it is hard material up there. I am not speaking about that part of the canal, Senator. I am speaking of the lower part of the canal, down between the Mindi River and Bohio, or even up farther than that.

Senator MORGAN. Ten or 12 miles?

General HAINS. Yes, sir—oh, yes, sir; there is more than that. It is this part along here I am speaking of [indicating]. There is about 20 miles of it which is only 150 feet wide—19½ miles, to be accurate. I believe that is what it is.

Senator KITTREDGE. How much current will there be in the sea-level canal from Gamboa to the Atlantic Ocean?

General HAINS. The current down in the lower part is supposed to reach 2.6 miles per hour, or about 4 feet per second.

Senator KITTREDGE. Why do you say "supposed?"

General HAINS. It is calculated to do it.

Senator KITTREDGE. Where is that calculation made?

General HAINS. In the office of the Commission. It was made by the Advisory Board itself.

Senator KITTREDGE. Is that a sufficient current to accomplish the result you indicate?

General HAINS. Yes, sir; I think so.

Senator MORGAN. Such calculations are entirely reliable in engineering?

General HAINS. There is only one question about it, Senator, in my mind; I do not know but what those currents may be a little swifter. The Consulting Board admit that there may be a velocity of about 2.6 feet per second, but I am not sure but what there will be more.

Senator MORGAN. You have formulæ by which you make the computations that are uniformly used everywhere?

General HAINS. Oh, yes, sir; yes, sir.

Another reason why I do not like the sea-level canal is because it requires many more dams, and one dam which is much larger than any required by the other plan. I do not mean to say that any of these dams are going to be difficult engineering problems; but they are there.

Senator MORGAN. Are these dams that you speak of for the purpose of producing divergence of water to keep it from flowing into the canal?

General HAINS. Yes, sir; there are about thirty of them. There are about thirty dams between here [indicating] and Gamboa that have to be built before you can build your sea-level canal.

Senator DRYDEN. Do you say that there is one dam larger than the proposed dam at Gatun?

General HAINS. Yes, sir; the Gamboa dam is larger. That holds a head of 170 feet, while this one down here only holds a head of 85 feet; but there are over 30 dams to be built along that route.

Senator DRYDEN. What is the length of that large dam there for the sea-level canal?

General HAINS. This one [indicating]?

Senator DRYDEN. Yes.

General HAINS. The dam is in three pieces. The big section is something like 2,000 feet, as I remember.

Senator DRYDEN. Three thousand or 2,000?

General HAINS. Two thousand. I think it is about that. It is on the drawings. I do not remember those figures.

Senator MORGAN. General (if the committee will excuse me for asking a question that is momentarily applicable and very important, I believe), taking into consideration the cost of the thirty dams you speak of as regulating the flow of the affluents of the Chagres River into the canal, is it not probable that the cost of a sea-level canal between Gamboa and, we will say, Mindi or Gatun would be less if it were dug right down through the marginal peaks of the Chagres River on the right bank, and the dump thrown into the river?

General HAINS. I have never investigated that question, Senator; I could not say.

Senator MORGAN. You would certainly get rid of a great many of the affluents by such a course, by digging your canal so as to hug the mountain here right along down and throwing the dump into the valley of the river. I do not mean the river bed, but I mean the lowlands.

General HAINS. I can not answer your question, Senator. I have never given sufficient study to that particular project. What I wanted to state now was one of the reasons why I do not favor a sea-level project. As I stated, there are about 30 dams along the line of that canal that are to be built.

Senator MORGAN. Between Gamboa and the bay?

General HAINS. Between Mindi, say, down near the end, and Gamboa. The Chagres River sometimes discharges in the neighborhood of 100,000 cubic feet a second at Gamboa.

Senator MORGAN. What rise would that be above the ordinary surface?

General HAINS. About 40 feet. Before you can build your canal you will have to divert the waters of the Chagres. Now, if you do not have any of those big freshets while you are building this diversion, you will have no trouble. But this diversion channel is not contemplated, or has not been contemplated by anybody that I know of, to be anything like as big as the Chagres River itself. The consequence is, if you take the discharge of the Chagres River into this diversion channel, you are going to have a great, big river going down to the sea alongside of your canal while your canal is being built; and if it breaks in on you, my opinion is that the damage will be immense. Just exactly what it will be I do not know; no one can predict what it will be. It will depend on how big a freshet it is.

After the canal is finished these diversions are to be dispensed with, and all these streams, both the Chagres and the other tributary streams along there, are to be taken into the canal—that is, most of them. There are four or five down at the lower end that are permanently diverted.

Senator MORGAN. Along with that flood of 40 feet at Gamboa in the Chagres?

General HAINS. Yes, sir.

Senator MORGAN. They are all to be taken into the channel of the canal?

General HAINS. The river now is known to rise at Gamboa about 40 feet.

Senator MORGAN. Yes.

General HAINS. And if you get a rise of anything like 40 feet in your diversion channel, you can easily see that when you cross the river you will have to have a tolerably good-sized dam to keep the water out.

Senator MORGAN. Let me ask you if it is a fact now that a rise of 46 feet is recorded at Bohio?

General HAINS. Forty-six feet?

Senator MORGAN. Yes.

General HAINS. No, sir; I think about 39 is about the highest that they ever had any record of, Senator, at Bohio.

Senator DRYDEN. Then this danger that you speak of, of the water of the Chagres breaking out of this conduit proposed to be constructed, would be present during the whole time of the construction of the canal—somewhere from twelve to twenty years?

General HAINS. Yes, sir.

Senator MORGAN. Just there there is a point of interest in my mind which I would like to have solved. The conduit you speak of means a channel running up toward the sea through the coastal plain?

General HAINS. No, sir; not through the coastal plain. I will explain it here from this map, Senator. This is a large map [producing new map]. Here is the Chagres River. Here is a part of the old French diversion. There it goes, along there, until it runs into the river. Every little while they make use of the river for the purpose of

reducing the cost of this diversion channel—so they use that, and that is the plan in the Consulting Board's project.

Senator MORGAN. General, where is Gamboa on that plan, please?

General HAINS. It is up here. It is not on this map, Senator; it is up here farther.

What I wanted to show you by this is about these dams. Here is a diversion channel, you see, coming along here, and here is the canal [indicating]. This canal crosses the river there [indicating]. You will have to have a dam on this side to keep this diversion channel from discharging into the canal while you are constructing it. You will have to have another dam here, because this is the diversion channel that is part of the old river used for diversion, and you will have to have another dam here to keep that water from going into the canal, or into the partially constructed canal; and the same way here and here and here [indicating]. Here is this diversion channel, passing along from the old bed of the river, going up this way, into the Frijoles. Then it goes down the Frijoles into there [indicating]. But you must put a dam down here, and you must put a dam there [indicating] to keep that water from going down into your canal.

The Consulting Board estimated three and a half millions of dollars for these diversion channels, for the dams, and all the necessary adjuncts of taking these waters afterwards into the canal itself. Our Commission went over those estimates and came to the conclusion that the estimate was about six and a half millions too little.

Senator MORGAN. They estimated it at three millions?

General HAINS. Three and a half, and I think we made it about ten—somewhere along there. I do not remember the exact figure, but it is about ten millions.

Senator KITTREDGE. Before you start in on that subject I would like to ask you one or two questions on the subject of the water supply. What is the variation in height of the water at the Gatun dam at high water and at low water?

General HAINS. I think they count on about 3 feet variation.

Senator KITTREDGE. Is it not about 5 feet?

General HAINS. No, sir; I do not think there will be as much as 5; and it is not necessary, really, to have any material fluctuation in that level. If you build a dam at Gamboa or Alhajuela so as to control the water up there, control the flow into that big lake, I do not think there will be as much as 3 feet.

Senator KITTREDGE. A dam at Gamboa or Alhajuela is not contemplated under the minority or lock plan, is it?

General HAINS. It is not contemplated; no.

Senator KITTREDGE. Then why do you speak of that feature?

General HAINS. A dam there, at one of those places, is provisionally contemplated if ever the traffic through the canal should become very great.

Senator KITTREDGE. So that the supply of the water should be diminished to such an extent that it should become necessary to use the additional water; is that it?

General HAINS. No; it is so as to hold back a sufficient amount of water to supply the needs of the dry season.

Senator KITTREDGE. According to your statement, then, there is a variation of 3 feet?

General HAINS. Yes, sir.

Senator KITTREDGE. So that at some times of the year—in the dry season, I suppose—the height of the water at the Gatun dam will be 82 feet?

General HAINS. Yes, sir; I suppose it would get down to 82 feet sometimes. It might; I do not know. I have not worked that out, but I think they contemplate a variation of about 3 feet.

Senator KITTREDGE. And if the engineers have testified that it was a variation of 5 feet, would you be surprised?

General HAINS. Yes, sir; I think I would.

Senator KITTREDGE. Now, assume that it is 3 feet in the dry season, that would reduce the depth of your water through the entire distance between the locks, would it?

General HAINS. Yes, sir.

Senator KITTREDGE. So that at some seasons of the year, then, the maximum depth of water in the canal proposed by the minority would not exceed 42 feet, would it?

General HAINS. It might not exceed 42 feet for a very short time, Senator; there are but three months of the dry season, and if there is a falling of the lake and it only falls 3 feet, the 3 feet is only reached toward the last part of the dry season.

Senator KITTREDGE. But it would be reached at some time during the year?

General HAINS. Oh, it might be reached; yes.

Senator KITTREDGE. And when that condition was reached it would reduce the depth of your water to 42 feet, would it not?

General HAINS. To 42 feet; yes, sir.

Senator KITTREDGE. And the capacity of the canal is limited by the minimum depth?

General HAINS. Yes, sir.

Senator KITTREDGE. Then, instead of 45 feet of water it would be 42, would it not?

General HAINS. The way I should put that would be that you might have 42 feet for a few days; you would only have less than 43 feet for about a month and a half; and you would only have less than 44 feet for about, say, two months and a half; and for all the year except about three months you would have 45 feet.

Senator KITTREDGE. Your statement a few moments ago to us that the lock plan which you favored would permit a draft of water of 45 feet was subject to the exceptions you now state?

General HAINS. Yes, sir.

Senator KITTREDGE. That is what I had in mind.

Senator MORGAN. Just one more question before you proceed; it will only take a moment to answer it. In the construction of a sea-level canal, commencing at the Bay of Limon and running up, say, as far as Obispo or Gamboa, would it be necessary to divert the channel of the Chagres so as to enable the dredges to operate that would come in from the sea?

General HAINS. Yes, sir.

Senator MORGAN. It would be necessary to divert the channel of the river?

General HAINS. Yes, sir; all the way.

Senator MORGAN. And you think that the dredging could not be

done from the Bay of Limon, up to, say, Gamboa or Obispo, without that diversion?

General HAINS. No, sir; I do not think it could be done. I think it would be unsafe to try it.

Senator MORGAN. Unsafe?

General HAINS. Yes, sir.

Senator MORGAN. You mean by that, I suppose, that in the flood waters all of the work would be swept out by the flood unless you took care of it by diverting it?

General HAINS. Yes, sir.

Another reason why I prefer the lock canal is on account of the less depth of cut in the Culebra, and because the deeper the cut the greater is the liability to injury to the slopes. Landslides (I do not mean large landslides) have been frequent there. Small slides have occurred along the portion where the cut has already been made; and you will find some of these referred to in Colonel Black's reports. I have seen a good sized spring coming right out of the side of that cut.

I do not wish to be understood as saying that that becomes a matter of serious danger; but these landslides, or these slides of these pieces, which may occur and are apt to occur, will cause constant expense for reconstructing them in some way or other. The way the Frenchmen did, when they had slides in those places, was more like that [indicating]; they would build those up again; and you will find in Colonel Black's reports that there were numerous cases where those slips (I call them slides, you might call them slips) would have to be rebuilt, one or two at a time. You have to put it back; you have to build up a dry stone wall of masonry; and it has been done, and it is there now.

Senator KITTREDGE. Have the small lines passing through the blue and the red or pink on that map any significance?

General HAINS. Merely to indicate the general slope. That line is drawn so as to show that this is a general slope of 1 on 1, 1 base to 1 vertical; and this is put in to illustrate the manner in which this slope is cut. It is not cut as a straight line, right down that way, but with these steps in it.

Senator MORGAN. Those benches are about 25 feet on the front?

General HAINS. Different engineers have different ideas about it. On the sections adopted by the Consulting Board they are about 12½ feet wide.

Senator MORGAN. On the flat, on top?

General HAINS. Yes, sir.

Senator MORGAN. What is the frontage?

General HAINS. And 30 feet high. This is about 30 feet high, and that is about 12½ feet across there [indicating].

Senator MORGAN. Is 12½ feet width enough to carry a railroad track?

General HAINS. I do not think it would be advisable to put railroad tracks along there, on all of those places, or, in fact, on many of them.

I do not suppose, Senator, that it is necessary for me to refer to Colonel Black's reports. I have his reports here, but if you do not care to hear about them I will pass that matter over.

Senator MORGAN. I think we had better get all the information we can while we are at it.

Senator KITTREDGE. State the substance of them, at least.

General HAINS. I can hardly state the substance, Senator. I will just take two brief paragraphs from his reports. Here is a report that

he made—a general report by Major Black. I will just look at the date of it.

Senator KITTREDGE. Is that made to us, General?

General HAINS. No; it is made to the Isthmian Canal Commission. It was about the time that the canal was taken over by the United States. He had been down there a year keeping account of the work that was being done by the French company.

Senator MORGAN. He was “guardian ad hock;” he was guardian over the establishment until we took it over?

General HAINS. Here is what he says about slips in the cut:

“The adopted project calls for terraced side slopes above the water level, with levels 5 meters wide, spaced vertically 10 meters apart, and slopes between these levels with an inclination of 5 vertical to 2 horizontal, excepting in clay at the top, where the inclination is 2 vertical to 3 horizontal. These slopes have proved too steep in many instances, and falls of rock and clay have been frequent. When these falls took place from the slopes of finished sections efforts were made to rebuild the slopes and restore the broken levels with dry rubble masonry or with riprap. It is rare where this work has remained in place. The force in my charge was too small to keep an accurate account of all of this kind of work done, which must be classed as useless. For two points, however, it is possible to give a fairly accurate estimate.

“In May a slide took place on the east side of the cut, at kilometer 54+975”——

That is a position that the map can show, as to where it was. [Reading:]

“Carrying away parts of levels 67 and 75. Work was begun at once to restore these slopes and levels by building a dry rubble wall. The wall fell once shortly after it was started, and in part once after completion. It was finally repaired in July, and stood fairly well until November, when it was again carried away and has not yet been restored.

“Another fall took place in May on the east side, at kilometer 55+110, carrying away portions of levels 67 and 75. An effort was also made here to restore level 75. This work was also carried away in October.

“During the months of May, June, July, and August a force was employed on this work at a cost of \$822.70 Colombian silver. Other work of the same kind was done, but it has been impossible to obtain data on which to base an estimate of its cost.”

In another part of that same report he says:

“None of the black rock of the heart of the Culebra Hill has been found at a depth below +45 on the east side of the cut, or below +50 on the west side. Blue clay underlies it. This fact should be considered carefully in making projects for the slopes of the finished work. The effect of the lack of homogeneity in the material forming the slopes is to make it impracticable to hold a continuous steep slope.

“Slips occur where the different formations abut, and also where a previous layer is found beneath the surface to which water can find its way. When the final project is made the question of slope of the bank must be left for local determination. Each section should have a treatment best suited to the material of which it is composed. No money should be expended in attempting to obtain regularity of slopes.

When a stable slope is obtained in a finished section it should be planted with vegetation. The upper surface of all level(s) for a distance of at least 200 meters from the superior crest should be kept carefully drained. During operations working levels, when needed, should be kept at least 10 meters wide."

I only quote this to show that it is a mistake to suppose that there are no slips.

The CHAIRMAN. General, is that an official document?

General HAINS. Yes, sir.

(General Hains was requested by the committee to obtain a dozen copies of the report for the use of the committee, and stated that he would do so.)

The CHAIRMAN. Now, General, kindly proceed with your statement.

General HAINS. Another reason for preferring the lock canal is that it affords a better regulation of the Chagres during freshets. The regulation of the Chagres River during freshets is a very important question. The lack of preparation on the part of the French in the first case—that is, under the De Lesseps Company—was, I think, largely due to the fact that they did not provide for a good regulation of the freshets. This large lake, which is over 103 or 104 miles, I think, in area, is so large that all these freshets that come in from the little streams or from the Chagres River itself come in there and cause no trouble at all, because these freshet waters are dumped right into still water, and there is no trouble about it, except that it rises a little. But it takes a great deal of water, you know, to make a foot of rise on a lake that is 104 miles in area; and then they have the spillway to regulate the flow, anyway.

I have already spoken of the currents in the sea-level canal; and that is another reason why I prefer the other, the lock canal. There are no currents in the lock canal. The lock canal is the kind of canal that is ordinarily understood when we use the word "canal." A canal does not generally have a swift current in it, and there is no current in that canal; so that that is another reason.

Senator KITTREDGE. Do you call a current moving at the rate of 2½ miles an hour a swift current?

General HAINS. Yes, sir; I do. For a big ship, I do.

Senator ANKENY. Do we understand, General, that this drift of the Chagres waters will make what we call at sea a 2½-mile drift? You had some computation of your own about the Chagres waters that I do not understand; but is it what a seaman would call a 2½-mile current?

General HAINS. A 2½-mile current; yes, sir.

Senator ANKENY. You have to meet that to stand where you are?

General HAINS. That is what you have to do. If you are sailing with the current you have to keep steerageway in that current, and that necessitates your going—well, if you wanted to make 4 miles an hour against that current you would be making only, really, 1½.

Senator ANKENY. In other words, you have to meet the 2½-mile drift?

General HAINS. That is what you have to do.

Senator ANKENY. Yes; thank you.

General HAINS. There is another reason which, perhaps, many persons will regard as not a very strong one, but I think it is a reason of some account—that a sea-level canal after it is finished is not finished.

That is, I mean that that sea-level canal (referring to majority plan) is not finished, and it never will be finished; and there is going to be a constant demand for widening and deepening or something or other, and I think it is going to be a drain on the Treasury which, I think, is unnecessary.

Another reason is that a lock canal is a fresh-water lake. It has a large fresh-water lake in it; and while this may not be of great value, still it is a good thing to have this large area in here in which vessels can anchor and clean their bottoms. If the amount of commerce that is being provided for ever goes through that canal those lakes will be very useful for a vessel to stop and clean in.

Senator ANKENY. Do you not think, General, that there is a good deal of nonsense about fresh water relieving a ship of her barnacles?

General HAINS. Fresh water does not relieve a ship of barnacles, Senator.

Senator ANKENY. Can you not clean your ship in any other place just as well, then?

General HAINS. You could, in fresh water. What I am referring to in speaking of cleaning is the destruction of the marine growth, like grass, that forms on the bottom of a ship.

Senator ANKENY. You did not have the barnacle altogether in mind, then?

General HAINS. No, sir; I did not have the barnacle in mind.

Senator ANKENY. But you are familiar with what is so often said about that?

General HAINS. Yes. I do not think you will clean off the barnacles down there. I think there is only one safe way, one proper way, to clean off barnacles, and that is to dock your ship.

Senator ANKENY. Yes; that is right.

General HAINS. But the grass and that stuff that grows on a vessel whenever it is in the tropics for any length of time would drop off itself in fresh water.

Another reason is that the lock canal can be deepened more readily and widened at less cost than the sea-level canal. It would be a very slight expense to raise the canal walls and the height of the lock gates and the spillway in order to get, say, 1 or 2 or 3 feet additional, whereas to get additional depth in the sea-level canal would be a very expensive operation.

I think there is considerable uncertainty in the estimates, from this cause: The uncertain elements are much greater in the case of a sea-level canal. There is an uncertainty about those slopes in the Culebra cut, and there is considerable uncertainty as to the damage you will get in constructing that sea-level canal. Those uncertainties do not apply to the other canal.

The sea-level canal also has a large amount of rock excavation below tide level in it.

There is another point, and that is in regard to the claim that has been made that the lock gates in the sea-level canal can be kept open half the time. I think that is decidedly an error. I think we will find in the Panama Canal just the same thing that occurred in the Kiel Canal. They thought they were going to keep the gates open there most of the time, and they find that they can not do it. They find that they have to keep those gates closed. I have not a drawing of the gates, but I suppose you understand very well that you will have two

sets of gates, one working in one direction and the other working in the opposite direction.

You have a rise and fall of the tide on the Pacific end, and a constant level in your canal, or very nearly constant, and this rise of the tide at times ranges from about 5 or 6 feet above mean sea level to about 10 or 11 feet, and it falls from about 5 to 6 feet below that plane, making a total oscillation of something like—I think the minimum there is about 9 or 10, and the maximum about 21.

These tides occur twice a day. You will have two low tides and two high tides. The consequence is that as soon as the tide begins to rise, say, your gates would be open, your canal is at mean sea level, and you have your gates open, and that is the level on the Pacific side. You have your gates all opened. Now, as soon as the tide begins to rise you must close them. You must close the upper ones in order to lock down. There will be great difficulty in closing those gates as soon as the current begins to run through there. That current has been found at the end of the Kiel Canal to be very troublesome, so that now they keep those gates closed all the time. The conditions are not very much different there, either, because they do not have as much rise and fall of the tides as we have at Panama; but they do have strong tides that cause considerable rises.

Senator KITTREDGE. Accompanied by wind?

General HAINS. Yes, sir.

I think the picture of a vessel damaging the canal by going through the locks, plunging down through a gate, and all that sort of thing, is very much overdrawn. There is no difficulty, to my mind, in providing a temporary structure that could be sunk down in the foundation just ahead of the upper lock-gates, so that in case anything happened below you could raise it just like you raise one of the Stoney gates. The Stoney gates are built certainly over 30 feet wide, I know, and I do not know how much wider; but a caisson could be sunk into the foundation there which could be raised without any great trouble. That would cut off that water before it had created any great damage. I do not mean to say that it would not damage anything at all, but it would not be nearly so great as one might suppose.

As to the difference of danger in time of war, I do not think there is much difference. I think a neutral canal would be the best protection that you could give it. There is no canal down there that is going to be of any use to the United States unless we command the Caribbean Sea; and you may fortify it all you please and it will not do any good. You will merely create a military outpost down there which is hard to reach, but which it will be necessary to reach and keep up communication with, and it would hamper the Navy to such an extent that I think the efficiency of the Navy would be very much reduced.

Senator KITTREDGE. May I interrupt you right there? Do I understand you, General, to say that you think that in the event of war this Government would be better off without the canal than with it?

General HAINS. No, sir; I did not say that.

Senator KITTREDGE. Just what did you mean by your last statement?

General HAINS. I spoke of a neutral canal. I say that I do not think there is any great difference as to the danger of the canal being destroyed, we will say, temporarily or permanently, during war, but that I would

rather depend on the neutrality of the canal than on anything else to defend it.

Senator MORGAN. But, General, you do not think a neutral canal there is possible when we are engaged in belligerency with a great power? We, as a neutral, can not permit the vessels of any great power to pass through there when we are at war with it, if they are going out west to attack our Pacific coast, or coming in to attack the Atlantic coast with a great fleet, can we? We could not endure that kind of neutrality.

General HAINS. Well, Senator, there is this about it: Any navy that can force its way to the canal is going to render the canal absolutely useless to us.

Senator MORGAN. Why, of course; that is unquestionable. We would have no commerce.

General HAINS. If you will allow me, I would rather pass that matter over just now.

Senator MORGAN. Yes.

General HAINS. Now, I want to speak with reference to the slopes in the Culebra cut.

The slopes in the Culebra cut of the sea-level project above the 50-foot berm—that is this [indicating]—are taken as 3 vertical to 2 base in what is classed as rock, and 1 vertical to 2 base in earth or clay. Those for the lock project are the same, but in the lock project provision is made for an extra berm for every 150 feet rise. That is, they have an extra berm here for every rise of 150 feet. There is not much of a distance where you have over 150 feet, but you can see that this wide berm gives a good chance for any slips that may occur.

The CHAIRMAN. What is the width there, General, at the top?

General HAINS. Fifty feet. The slopes, therefore, in the lock plan are flatter and safer and approach more nearly those heretofore used for estimating purposes. The technical committee of the French company adopted slopes of about 1 on 1. The Isthmian Canal Commission of 1899 adopted slopes of 1 on 1. Mr. Wallace, former chief engineer of the Panama Canal, in his estimates adopted slopes above the berm of 1 on 1. In Mr. Wallace's report of February 1, 1905, made to the Isthmian Canal Commission (I think you have it here; I saw somebody have it yesterday), he gives an estimate of the cost of making the excavation from Bohio to Miraflores for a sea-level canal 150 feet wide and 35 feet deep, with berms 50 feet wide, and with slopes of 1 on 1 above the berm and 1 on 2 below it. You understand what it is—that is, 1 on 2 in that lower end [indicating on map].

Senator ANKENY. What degree is that?

General HAINS. One on 2 would be about 30 degrees to the horizontal, I think it is. This is 1 on 2 [indicating].

Senator ANKENY. Forty-five degrees?

General HAINS. No, sir; that is not 45. This other is 45. One on 1 is 45. That is flatter.

The quantity of excavation between Bohio and Miraflores estimated by Mr. Wallace for a sea-level canal is given as 250,000,000 cubic yards. The amount of excavation is for a canal 35 feet deep and 150 feet wide at the bottom.

The estimate of the Consulting Board for this portion of the sea-level canal is 176,005,291 cubic yards, but the canal is 40 feet deep throughout the entire distance between Bohio and Miraflores, and

more than one-half of it is 200 feet wide. In other words, the estimated excavation for this part alone of the larger canal is about 74,000,000 cubic yards less than the smaller one. Now, had the estimate of the Consulting Board been based on the same slopes that were used by Mr. Wallace in his estimates for this portion of the canal, the total quantity of excavation would not have been less than about 285,000,000 cubic yards.

I do not claim that Mr. Wallace's estimates are more nearly correct than those of the majority of the Consulting Board, but they are certainly safer estimates. The errors, if any, are more likely to be on the safe side, and the liability to errors is great.

The engineering committee of the Isthmian Canal Commission, in its report of February 14, 1905, adopted Mr. Wallace's estimates for that portion of the canal, as will be seen by the resolution unanimously adopted by that committee and referred to on page 14 of their report.

Has any new data been brought to light that justifies the use of these steeper slopes in estimating the quantities of excavation? I certainly know of none, and I am quite sure that the character of the material has not changed within the past year.

I speak of this for the purpose of showing that the sea-level advocates have adopted much steeper slopes than have ever been used heretofore for estimating purposes.

Now, these slopes may stand. I do not say that they will not; but I think it is very unsafe to adopt such steep slopes when there is a good, strong possibility that they will not stand.

Senator KITTREDGE. In other words, you would eliminate all possible danger?

General HAINS. Well, I do not think I would eliminate it altogether by taking slopes of 1 on 1; but I think I would come nearer to eliminating it than by taking anything steeper.

Senator KITTREDGE. In other words, you would advise us to take the absolutely sure course?

General HAINS. Well, I do not know that 1 on 1 is absolutely sure; but it is certainly safer than any steeper slope, and 1 on 1 is the slope that has been adopted heretofore in all the estimates—about 1 on 1. The French had very nearly the same thing; we had the same thing—that is, the Isthmian Canal Commission had the same slopes, and Mr. Wallace used the same slopes, but the Consulting Board, after their examination, came to the conclusion that you could put in a great deal steeper slopes.

Senator KITTREDGE. You advise taking the safe course?

General HAINS. I advise taking the safer course.

Senator KITTREDGE. And that is true of every matter, I suppose, connected with the canal proposition?

General HAINS. Well, I do not know that that would be true. There might be some things where the total advantages on one side would outweigh a course that would be perfectly safe, and you might be willing to take some risks on something; and possibly you would take risks on this. I would prefer not to, in the estimates. I am only speaking of the estimates. The tendency of this is to reduce the estimate of the sea-level project to a greater extent, proportionately, than the estimates for the lock-canal project.

Senator KITTREDGE. In other words, "in case of doubt take the safe course." Is that it?

General HAINS. No; I do not say that exactly, either. In respect of the expenditure of so much money, I think the estimates for the sea-level project will certainly be something like \$150,000,000—from \$125,000,000 to \$150,000,000, say—more than for the other canal. That is my opinion; and I do not see that there is sufficient reason for spending that additional money, even though the sea-level canal had some advantages.

As another reason, I think that the lock canal is really a shorter canal than a sea-level canal. By cutting off through here [indicating] you can reduce the length of that canal 1 mile. That does not amount to much, but still it is something.

I think there is another objection. I think that in a great project like this, involving a large expenditure of money, extended over a prolonged period, the people may become tired of appropriating money and refuse to complete it. I do not think that is an imaginary proposition.

Senator MORGAN. That is where the whole work is going to break down unless we succeed in getting something that they can understand, and that they feel that they can face. It will all "go to pot" unless we do it.

General HAINS. I have a note here on the subject of the opinions of different engineers on this subject.

The first canal that was attempted to be built on the Isthmus was a sea-level canal, substantially the same sea-level canal that is now proposed by the majority of the Board of Consulting Engineers. It occupies the same location in the territory. It provides for a high dam at Gamboa and the holding back of the waters of the Chagres River above that dam, and differs from that of the Consulting Board only in some of its details. The plan of the Consulting Board, of course, enlarges that of the first French company, and extensive changes are made at the two harbors; but essentially it is the old, discredited De Lesseps project of the sea-level canal revived, with enlargements and modifications.

After the failure of the first company a body of engineers known as the Commission d'Etudes, composed of eleven engineers eminent in their profession in Europe, was organized by the Liquidator in 1889. After a careful study of the technical questions involved in the problem of the canal, it rendered its report in 1889. This commission reported in favor of the abandonment of the sea-level canal and the adoption of a project for the completion of a canal with locks. Subsequently another commission, known as the Comité Technique, was organized, composed of fourteen engineers, many of them engineers of the highest standing in the civilized world. They made a report in 1898, recommending a lock canal.

Another commission, known as the Comité Statutaire, composed of five members, and all except one of them being new men, reported in favor of a lock canal. Later the Isthmian Canal Commission rejected the sea-level plan and adopted the lock plan. There were six engineers in that Commission, so that there were no less than thirty-four engineers opposed to the sea-level plan. It is believed that the weight of evidence against the sea-level project and in favor of the lock project can not be ignored in making a decision.

Here follow the names of the engineers referred to. I will not read them, because, in fact, I do not believe I could pronounce them all correctly, any way.

Senator MORGAN. They will go into the record, though.

General HAINS. But there they are.

Senator MORGAN. Lamberton was one of them, was he not?

General HAINS. No, sir.

(By direction of the committee, the following names, referred to above by General Hains, are printed as a part of the record):

M. Guillemain, inspector-general and director of the National School of Bridges and Routes of Communication.

M. Chaper, engineer in the corps of mining engineers.

M. Cousin, engineer in the corps of bridges and routes, of Belgium, and professor in the University at Louvain.

M. V. Daynard, formerly naval engineer, chief engineer of the Trans-Atlantic Steamship Company.

M. Descubes Du Chatenet, engineer in the corps of mining engineers.

M. Germain, hydrographic engineer of the navy.

M. Holtz, chief engineer, and professor in the National School of Bridges and Routes of Communication.

M. Lagout, engineer in the corps of bridges and routes of communication.

M. Nivoit, chief engineer in the corps of mining engineers, and professor in the National School of Bridges and Routes of Communication.

M. Renoust Des Orgeries, inspector-general in the corps of bridges and routes of communication, retired.

M. Van Zuylen, colonel of engineers, and formerly chief engineer of the army of Holland in the East Indies.

M. Robaglia, inspector-general of the corps of bridges and routes of communication, retired.

M. Bouvier, inspector-general of the corps of bridges and routes of communication, retired.

Gen. H. L. Abbot, colonel of the Corps of United States Engineers, retired.

M. Castel, inspector-general of the corps of mines, retired.

M. Fargue, inspector-general of the corps of bridges and routes of communication, retired.

M. Ftely, chief engineer of the aqueduct commission of New York City, and past president of the Society of Civil Engineers.

M. Fulscher, consulting engineer of the ministry of public works of Prussia, and formerly chief engineer of the Kiel Canal.

M. Hersent, civil engineer, constructing the new docks at Antwerp.

M. Hunter, chief engineer of the Manchester Ship Canal.

M. Koch, consulting engineer of public works, director of the Technical Academy at Darmstadt. Formerly technical member of the imperial commission of the Kiel Canal.

M. Jules Martin, inspector-general of the corps of bridges and routes of communication, retired.

M. Skalkowski, formerly director of the department of mines in the ministry of agriculture and State property of Russia.

M. Sosa, chief engineer of Colombia (graduate of the Troy Polytechnic Institute, New York).

M. Paul Etienne, chief engineer of the corps of bridges and routes of communication.

M. Joseph Barba, formerly engineer in the French navy and chief engineer at the iron works at Creusot.

M. Marcel Bertrand, member of the Institute of France, chief engineer in the corps of mines, and professor of geology at the National Higher School of Mines.

M. Philippe Zurcher, chief engineer of the corps of bridges and routes of communication.

Mr. George S. Morison.

Lieut. Col. Oswald H. Ernst, Corps of Engineers, U. S. Army.

Mr. Lewis M. Haupt, civil engineer.

Mr. Alfred Noble, civil engineer.

Col. Peter C. Hains, Corps of Engineers, U. S. Army.

Mr. William H. Burr, civil engineer.

General HAINS. In this connection I quote the following extract from a letter from Chief Engineer Stevens. He states in the letter that "of the engineers who are now on the Isthmus in the employ of the Commission, of all ranks, of all degrees of experience and knowledge, I have yet to find a single man who is in favor of a sea-level canal. Most of them are very outspoken against such a proposition; and while it may be said that they are not world-wide men in technical knowledge and experience, I claim that an intimate knowledge of the conditions obtained by a residence of months and years on the ground is of far more value than any theories or any conclusions which may be drawn from existing works in other parts of the world which bear not the slightest resemblance to the proposition at Panama."

Senator KITTREDGE. Will you give the date of that letter?

General HAINS. December 19.

Senator KITTREDGE. To whom was it addressed?

General HAINS. To the chairman of the Commission.

Senator KITTREDGE. Will you please have that entire letter sent up?

General HAINS. I suppose the chairman will. The chairman of the Commission will send it to you, I suppose.

Senator KITTREDGE. Will you see that it is done?

General HAINS. I shall speak to him about it; yes.

Senator KITTREDGE. Returning to the question I asked you before you began to make your statement and relating to the matter that you have just mentioned, I call your attention to an article by Rear-Admiral Chester, found in the National Geographic Magazine for October, 1905, vol. 16, No. 10, and read, as follows:

"While on the Isthmus during the latter part of 1887 I ventured to ask Mr. Charles de Lesseps, who was then the company's manager, if he really expected, as was then widely published, that the canal would be completed the following year. He replied that, while he would not like to have it known, he did not mind telling me that in order to complete it at that time, as well as to procure a revenue for continuing digging down to sea level, the company might be forced to the lock system of construction. This would surely be accomplished in the end"—that is, the sea-level proposition.

General HAINS. Oh, yes.

Senator KITTREDGE. I move that we adjourn until half past 2.

Senator MORGAN. Just one question before we go.

The CHAIRMAN. All right, Senator.

Senator MORGAN. General, if the country between Gamboa and Pedro Miguel was as open and as easy of being cut through by digging or by dredging as the country between Bohio and Gamboa, would you prefer a lock canal across between Gamboa and Pedro Miguel to a sea-level canal through that same area?

General HAINS (after a pause). I do not know that I could answer your question offhand; but I am rather inclined to think, Senator, that I would prefer a sea-level canal under those circumstances.

Senator MORGAN. That is all I wanted to ask.

(The committee thereupon took a recess until 2.30 o'clock p. m.)

AFTER RECESS.

STATEMENT OF BRIG. GEN. PETER C. HAINS—Continued.

The CHAIRMAN. General, are you through with your statement? Had you finished when we took the recess?

General HAINS. I do not think there is anything else that I care to speak about.

The CHAIRMAN. Senator Morgan, will you take the matter up with the General?

Senator MORGAN. Yes. General, you were on the Board of Consulting Engineers, were you?

General HAINS. No, sir.

Senator MORGAN. You were on the Commission?

General HAINS. I am on the Commission.

Senator MORGAN. The only questions that were submitted to the Commission with respect to the type of the canal were a lock canal over the entire width of the Isthmus or a sea level canal under the entire width of the Isthmus, were they not?

General HAINS. Well, there were several different types of lock canals.

Senator MORGAN. But I speak of the question submitted by the President.

General HAINS. He directed us to submit such plans as had been proposed to or might be proposed by us to the Consulting Board.

Senator MORGAN. Well, the only two plans you conferred about were a lock canal and a sea-level canal?

General HAINS. Those are the only things that you could have. It is a question between a canal with locks or a sea-level canal.

Senator MORGAN. A canal with locks meant a canal with locks clear across the Isthmus?

General HAINS. Yes, sir.

Senator MORGAN. Not partially across?

General HAINS. No, sir.

Senator MORGAN. You did not confer together or consult together about the question of a canal that would be partly a sea-level canal and partly a lock canal?

General HAINS. Yes, sir; we did that. You know the project of the Isthmian Canal Commission itself is partly a sea-level canal.

Senator MORGAN. How far?

General HAINS. From Bohio to the Atlantic it is sea-level, and from Miraflores to the Pacific it is sea-level.

Senator MORGAN. That is the old Isthmian Canal proposition. That is what you mean?

General HAINS. Yes, sir.

Senator MORGAN. The proposition of the Walker Exploration Commission?

General HAINS. Yes, sir. That was the French project, too.

Senator MORGAN. With a dam and locks at Bohio?

General HAINS. Yes, sir.

Senator MORGAN. And at Pedro Miguel and Miraflores on the other side?

General HAINS. Yes, sir.

Senator MORGAN. Then it would be dredged out to a sea-level canal from that out?

General HAINS. To sea level from that out.

Senator MORGAN. The canal as recommended by the Walker Commission of exploration was a sea-level canal to Bohio?

General HAINS. Yes, sir.

Senator MORGAN. And a lake canal from that up across the divide?

General HAINS. Yes, sir.

Senator MORGAN. With an 85-foot elevation?

General HAINS. Yes, sir.

Senator MORGAN. And then a sea-level canal from Miraflores out into the Pacific—out into the bay?

General HAINS. Yes, sir.

Senator MORGAN. If you had absolute certainty of putting in a dam at Bohio would you not be disposed to adhere to that plan?

General HAINS. I would be willing to build that plan, but I think with a good lock site at Gatun I would prefer to build the Gatun lake rather than the Bohio lake.

Senator MORGAN. Yes; with a good lock site?

General HAINS. Yes, sir.

Senator MORGAN. And how about a dam site?

General HAINS. And a good dam site.

Senator MORGAN. I suppose, of course, you have examined carefully and exhaustively the proposed site for a dam at Gatun and the site for a spillway cut through the hill there?

General HAINS. Yes, sir.

Senator MORGAN. And the site for the locks on the right bank of the Chagres?

General HAINS. Yes, sir.

Senator MORGAN. Have you no misgivings as to the canal that is proposed to be built there, as to its permanency?

General HAINS. No, sir; I think the dam will be permanent, and the site for the locks is a good one.

Senator MORGAN. Does it furnish an extensive length of earth, with sufficient foundation for three twin locks in flight, to accommodate a ship 900 feet long?

General HAINS. Ample.

Senator MORGAN. You have made measurements, and you have satisfied yourself?

General HAINS. I have examined the drawings that we have, and when that question was raised a short time ago—a few days ago, in fact—Mr. Stevens was asked to report on it, and he made a report. I

believe the substance of it was read yesterday by General Ernst, saying that there was room enough to put a flight of three locks in tandem, and have each lock over 1,100 feet long.

Senator MORGAN. To be permanent and satisfactory and safe, within engineering comprehension and calculation, those locks should be underlaid by a rock foundation?

General HAINS. Yes, sir; that is what they are.

The CHAIRMAN. Senator Morgan, there is a paper that was sent into the room this morning by Mr. Shonts, and I think I will hand it to General Hains, and he might read it and have it go into the record. It seems to pertain to the Gatun dam [handing paper to General Hains].

General HAINS. I have never seen this cablegram.

The CHAIRMAN. One is a cablegram from Mr. Shonts to Mr. Stevens, the chief engineer, and the other is the reply from Mr. Stevens to Mr. Shonts.

General HAINS (reading):

, ISTHMIAN CANAL COMMISSION,
Washington, March 26, 1906.

SIR: I have the honor to transmit, for the information of your committee, the following cable correspondence:

"STEVENS: Wallace condemned Gatun site because rock foundation unobtainable and indurated clay with gravel bowlders and sand below not sure protection against seepage. Flatly contradicted Stearns and declared permanency earthwork dams on Isthmus not demonstrated by experience because of different conditions. Said three locks in flights dangerous, because required continuous construction concrete approximately mile long, and unless material uniform settlement be unequal, with disastrous results.

"SHONTS.

"MARCH 23, 1906."

"SHONTS: In regard to Wallace's testimony, character of foundation Gatun locks absolutely prohibits the slightest chance of any settlement. This can not be too strongly emphasized.

"STEVENS."

March 24, 1906.

Very respectfully,

T. P. SHONTS,
Chairman.

HON. JOSEPH H. MILLARD,

*Chairman Senate Committee on Interoceanic Canals,
United States Senate, Washington, D. C.*

Senator MORGAN. Well, as far as that goes, it is first a statement as to what Mr. Wallace's testimony was.

General HAINS. Yes.

Senator MORGAN. In which, I think, he does not represent Mr. Wallace correctly, as the record will show. The balance of it is not the statement of any fact, but the statement of an opinion. Do you know any fact to show that a rock foundation—and I am not talking about an indurated clay foundation—that a rock foundation can be had

for those locks at the site of the Gatun dam, to be practically a mile long? Have you seen any borings that would disclose that there was a rock foundation there practically a mile long?

General HAINS. No, sir; I have not seen the borings. I understand that Mr. Stevens has made a number of borings, but we have not had a report of them.

Senator MORGAN. You do not know what they are?

General HAINS. No, sir; I do not.

Senator MORGAN. Running a line a mile long, in which to put three locks of 1,100 feet you would not know how deep you would have to go beneath the level of those locks to strike rock?

General HAINS. I do not know of my own personal knowledge, no, Senator; the borings heretofore made did not cover the whole of the site. They changed the site of the locks slightly. The line of boring, however, which were made a little at an angle to it showed good foundation.

Senator MORGAN. As far as the borings extended?

General HAINS. Yes, sir; and they went as far as it was necessary if the locks had been put in that location.

Senator MORGAN. And at that angle?

General HAINS. At that angle; but they changed it and swung it around.

Senator MORGAN. They swung it around so as to make it more directly parallel to the general course of the canal?

General HAINS. I think that was it. I think so; yes.

Senator MORGAN. The first proposition would have brought the ships into the locks at an angle to the canal?

General HAINS. Yes; it runs off that way, and they put it in so that it will run off in that way [indicating on map]. Yes; that is correct.

Senator MORGAN. So far as this committee is informed, that is the opinion of Mr. Stevens without its being supported by actual borings which he has described to you in any way. He has not described any borings to you?

General HAINS. Not many borings. There are borings that are referred to in the report of Mr. Maltby, which he sent up.

Senator KITTREDGE. When was that done? When was the report to which you referred?

General HAINS. I think they were made last November, for the Consulting Board.

Senator MORGAN. Well, we have to leave that proposition, as I take it, as the matter stands before the committee now, for the want of proper information.

I will now turn across the site of the dam, on the blueprint here. In passing to the westward from the site of the locks in the direction of the hill through which the waste way is to be constructed you pass a gulch that appears to have been washed out of the indurated clay, in the shape of an inverted cone, that is put down on this blueprint here as being—

General HAINS. That is that one over here [indicating on blueprint]. This is the west one [indicating].

Senator MORGAN. Is that the west one?

General HAINS. Yes; that is the first one.

Senator MORGAN. Then I will change my question. You pass a gulch that is bored down to a depth of 210 feet below sea level, which

gulch is how wide at sea level? I do not know how to compute it on this map.

General HAINS. Pretty nearly 2,000 feet. A little less than 2,000 feet across.

Senator MORGAN. That gulch is pretty nearly 2,000 feet across?

General HAINS. At the top; yes.

Senator MORGAN. That has also been washed out of the indurated clay?

General HAINS. Well, perhaps.

Senator MORGAN. It is there?

General HAINS. It is there.

Senator MORGAN. Have you any better way to account for it than that it has been washed out?

General HAINS. I have no better way to account for it, but I do not know whether that was the way it was formed or not.

Senator MORGAN. We do not any of us know, but we have to take the probabilities and compare them and arrive at what we conceive to be, at least, a fair conclusion. All of that gulch is filled up with permeable material, is it not?

General HAINS. No, sir; I think that material is mostly impermeable.

Senator MORGAN. Down in that gulch?

General HAINS. Yes, sir.

Senator MORGAN. Where is the permeable part of it, on top—at the upper part?

General HAINS. Down at the bottom. The most permeable part is down at the bottom.

Senator MORGAN. The report of the borings there is that at the depth of 50 feet below sea level, I believe it is——

General HAINS. About that.

Senator MORGAN (continuing). The wells that were driven down for the purpose of ascertaining whether the water was in here and in here [indicating on blueprint] brought up water at a uniform level, or about a uniform level, in each of these gulches. The engineers who testified here, I believe all of them, come to the conclusion that the water that was thus forced up through those pipes belonged to a common body, and that what went up through the pipes in this deep gulch was the same body of water that went up through the pipes in the shallower gulch, and that therefore there was some substructure or substratum that was permeable, and there was communication on each side of this island. Do you concur in that?

General HAINS. That there was communication?

Senator MORGAN. Yes; between the waters.

General HAINS. No, sir; I do not.

Senator MORGAN. You do not?

General HAINS. No, sir.

Senator MORGAN. They spoke very decidedly about that, particularly Mr. Wallace. There is permeable material, though, lying at the bottom of this broad gulch that I have just described, and also this narrower one which runs down to 258 feet below sea level?

General HAINS. Yes, sir.

Senator MORGAN. The permeable material is in the bottom of these gulches?

General HAINS. Yes, sir.

Senator MORGAN. Do you consider that there is no necessity for stopping off the flow of water in the permeable material or otherwise obviating it or obstructing it in order to get a firm, permanent basis for the dam that reaches across both these gulches?

General HAINS. I do not think there is any necessity for stopping that seepage. At the same time I believe that seepage can be stopped, and at no great expense, either.

Senator MORGAN. How would you proceed to do it?

General HAINS. There are two methods that I have in mind which are practicable, in my opinion. One is to force cement grout down into that permeable material—that is, it is coarse sand, which will fill up the interstices and solidify the whole of it, making it practically rock. I do not regard that as at all an impracticable undertaking.

Senator MORGAN. Let me ask you right there whether you know of any great dam that has ever been filled upon such a foundation?

General HAINS. Such a foundation as that?

Senator MORGAN. Yes; a cement foundation pumped into the bottom of it.

General HAINS. No; I do not recall any where any seepage has been stopped by this process—that is, for any great depths. The Assiut dam, on the Nile, is built entirely on sand, and for a great depth under it—I do not know how many feet—but for a great depth under it there is nothing but sand, all of which is water-bearing, with a pressure of water in the river above the dam considerably above that below it.

Senator MORGAN. Are you speaking of the dam that spans the Nile, or the dam that flanks it?

General HAINS. It spans the Nile at the place called Assiut. I am not speaking of the Assuan dam. The Assuan dam is built on rock.

Senator MORGAN. Yes.

General HAINS. I mean one up near Cairo. This dam has had grout forced under it to so solidify the material to a depth of something like 30 feet, I think.

Senator MORGAN. Thirty feet?

General HAINS. Yes, sir.

Senator HOPKINS. And below that is the sand, through which the water seeps or can seep?

General HAINS. Yes; it is supposed to seep through there, but it has not affected the stability of the dam.

Senator MORGAN. Is that an earth dam or a sand dam, filled up on top of that?

General HAINS. That is a masonry dam.

Senator MORGAN. A masonry dam built on the top of this—

General HAINS. On this sand foundation.

Senator MORGAN. Filled with grouting?

General HAINS. The under part; yes, sir. The underlying sand is filled with this grouting.

Senator MORGAN. Like a rock core underlying it?

General HAINS. Yes, sir.

Senator DRYDEN. How long has that dam stood there?

General HAINS. I do not know when that dam was built, but I think it was built more than ten years ago.

Senator HOPKINS. What is the head of water?

General HAINS. That I can not say.

Senator MORGAN. About 25 feet, is it not?

General HAINS. I would not like to say, Senator. It is a matter that can be determined accurately. I do not carry these figures in my head any more than I can help, because I find that if I try to do it I am very apt to make mistakes.

Senator MORGAN. You have described one process by which you would undertake to intercept the water down there at the base of these two gulches. Is there any other process that you would rely upon?

General HAINS. Yes, sir; there is another process that I think could be applied there. That is, by using steel sheet piling. If you will let that stand over for a few minutes, Senator, I have sent down for a specimen of this sheet piling, from which, when it is sent up here, I can show you how I would put it down, if you do not already understand it.

Senator MORGAN. I do not understand about the sheet piling. I never saw any of it, but I have heard it described a time or two—not described really, but referred to.

Would you feel safe in putting in such a dam as is to be superimposed above these two gulches without any protection against the percolation of water at the foundation among this coarse material?

General HAINS. I should feel perfectly safe without it, yes.

Senator MORGAN. Have you any example of engineering in your mind that would give you a precedent that would contribute to your feeling of satisfaction and safety?

General HAINS. I do not recall just now large dams built on that kind of a foundation, but my understanding is that there are a number of them.

Senator MORGAN. Small dams, but not reaching down to two or three hundred feet, are there?

General HAINS. I say I do not recall any that are anything like these dimensions.

Senator MORGAN. It is the head of water that impinges against the dam, or presses upon the dam, that causes the danger of the washouts, is it not?

General HAINS. Yes, sir; and if it is not intercepted in some way or other there would be a head of water of 85 feet on the up-stream side of the dam, and if there was a streak of permeable material running from, say, what is now the bottom of the Chagres River, down that way and running out [indicating on map], some water would seep through; but I have no idea that the amount of seepage would endanger the dam. It might cause a loss of water, and if it was a case of water supply to a city it would be necessary to cut it off, because it might be of some importance; but in a case like this, where the number of feet are calculated to be so small, I can not see that there would be any danger from it. The mere seepage of the water through this stuff underneath does not, in my opinion, render the dam unsafe at all. If it could go through there with a velocity so as to move the particles along with it, that would be an entirely different thing; but it can not do that.

Senator MORGAN. When we find four or five engineers and they divide about equally, and one expresses the opinion that that is an element of danger, and the other expresses an opinion that it is not an element of danger, what are the laity to do?

General HAINS. Senator, you are in the same fix about the two types of canal.

Senator MORGAN. It looks to me as if we had better get a chuck-luck box and throw high die for a judgment about it. [Laughter.] But they are all opinions. It is your opinion that this dam can be built upon this structure without anything being put down into this soft material, this coarse material.

General HAINS. Yes, sir; that is my opinion.

Senator MORGAN. That is your opinion. If it is the opinion of another engineer, say with equal experience and ability, that it can not be done with safety, would it not be better, General, in that case, to discard both of them and take a plan that does not require any dam?

General HAINS. Why, no; I think the best thing under those circumstances is to accept what they say about its being dangerous and cut it off, which I say you can do by grouting it or by this steel sheet piling.

Senator TALIAFERRO. How much will that increase the cost?

General HAINS. Oh, I should not think it would add a half a million dollars to it.

Senator MORGAN. Well, that is not much in these times, you know, except to the taxpayers. They feel it sometimes, a little bit.

General HAINS. Speaking about this sheet piling, Senator, here is a specimen of it. That can be driven down. There is another piece over it, like that [indicating], and that goes on here, with this part right in there [indicating], and that is used for cofferdam purposes now. It has been used to great depths, and after it is down it is absolutely tight. You can pump water out of that with perfect impunity.

Senator MORGAN. Would that sheet piling be put down in sections like this?

General HAINS. Not in sections like this. This is just a short section. It would be long, you know. It would be long enough to reach down to the bottom of the gulch here.

Senator MORGAN. To be secure, I suppose it would have to reach from the bottom of the gulch up to the—

General HAINS. Clear up to the water surface, if you wish.

Senator MORGAN. Up to sea level?

General HAINS. Yes, sir; or even above it, if you want it to.

Senator MORGAN. It would not be put down as one solid mass of sheet piling, but it would be put down in sections, one resting upon the other?

General HAINS. One after the other.

Senator MORGAN. Driven down upon the top of each other?

General HAINS. Not on top of each other. You start with one up here, where you do not go down very deep. That gives you the bearing for the next one. [Indicating on blueprint.] Then you come with the next one, and that goes down still deeper. Then you come with the next one, and that goes down still deeper, and then the next one, that goes away down here [indicating on blueprint] into this what you call indurated clay, which I think is a misnomer; then this one, and then this one, and so on, until you get across the valley. Then across the whole of this, if there is any seepage through it, it will be stopped, admitting that there is seepage. I do not think there is any except down at the bottom; but by this means you will cut it

off. In the same way you will cut it off on this one [indicating on profile].

Senator MORGAN. If you use that sheet piling, or if you use the cement grouting, we will call it concrete——

General HAINS. Not concrete, Senator.

Senator MORGAN. Well, grouting.

General HAINS. It is just cement and water mixed together.

Senator MORGAN. That is all?

General HAINS. Yes, sir.

Senator MORGAN. If you use either, how are you going to fasten that to the walls of this indurated clay, as you go down, so as to prevent a crack? You fill up across this gulch a broad sheet, in order to cut off the water; how are you going to fasten the bearings or the edges of this, either the sheet piling or the cement, to the wall of this indurated clay, so as to prevent a crack there?

General HAINS. The sheet piling I would drive into this indurated clay, driving it in a short distance. That will answer that question, I believe.

Senator MORGAN. Laterally in the side walls as you go down?

General HAINS. You see this is exaggerated [referring to blueprint profile]. This distance across here is about 3,000 feet, and this distance from here to here is only 200; so that you see that this sugar-loaf line, you may say, does not convey the correct idea.

Senator MORGAN. Yes.

General HAINS. If this vertical scale was the same as the horizontal one, the bottom of that gulch instead of being away down there would be about there [indicating on blueprint profile].

Senator MORGAN. Yes.

General HAINS. You see, this is exaggerated. The scale is exaggerated in the vertical direction. If that were drawn according to the regular scale, it would come down along here [indicating]. That is the way that would be.

Senator MORGAN. But still it would come down in the form of an inverted cone?

General HAINS. Yes, sir.

Senator MORGAN. A sharp inverted cone?

General HAINS. Yes, sir; but instead of looking like a cone, it would be just a slight depression, like that; and that is all it is, in the rock.

Senator HOPKINS. This does not fairly represent it, then [referring to blueprint profile]?

General HAINS. No, sir; that is exaggerated.

Senator MORGAN. That is exaggerated, but the figures are all there.

General HAINS. The figures are all there, but it is exaggerated in order to put in these notes about what was found at different depths. That is a common practice. We always use those in drawings.

Senator MORGAN. This island of indurated material here, too, is exaggerated in the same way?

General HAINS. Yes, sir.

Senator MORGAN. So that, relatively, they are right, but nevertheless, in this direction—that is, toward the bottom of the blueprint—the appearances are calculated to deceive the eye.

General HAINS. That would be right down like that, if it was on the same scale [indicating].

Senator MORGAN. Yes. I want to know, when you have got your steel sheet piling driven in there and fastened in the walls on either side, if there is not still an element of danger in the cracking of that material and the disarrangement of the vast mass of earth that is piled upon it?

General HAINS. No, sir; I do not consider that there will be any danger from it, even though such a thing should occur. That dam is a very big one.

Senator MORGAN. You proceed now with the dam from east to west?

General HAINS. Say northeast to southwest. That is about the direction.

Senator MORGAN. Well, eastwardly and westwardly?

General HAINS. Yes, sir.

Senator MORGAN. You proceed with that dam, building it from the locks across these two gulches, and the next place you come to is that island?

General HAINS. Yes, sir.

Senator MORGAN. That mountain, or—

General HAINS. You mean the hill in between?

Senator MORGAN. Yes, sir.

General HAINS. That is this place here [indicating on the map]?

Senator MORGAN. Yes. You have got to provide for attaching your dam to that hill in some way?

General HAINS. No, sir. It is not necessary to make any provision for that. Your dam is of earth. The dam that is proposed there is of earth, and a slight cut into the hill will give you all the means of connection that will be necessary.

Senator MORGAN. That is attaching it, as I call it.

General HAINS. Yes; well, I thought you meant in some way—

Senator MORGAN. I did not mean riveting it, which would be a pretty hard thing to do. (Laughter.) I am talking about making the connection a solid one.

General HAINS. There is no trouble about that.

Senator MORGAN. The hill there is composed of material that has been there for ages and ages, and of course it has all settled together perfectly compact.

General HAINS. Yes.

Senator MORGAN. Your dam, no matter how carefully you put it in, is not quite as compact as that hill is going to be?

General HAINS. No; not quite.

Senator MORGAN. And if there is any convulsion, or any unusual pressure of water, or any other accident, we will call it—a convulsion or movement that affects this dam—would it not be most likely to invade the point of contact between the dam and the hill? Would not that be the weak point in the structure—the point of contact?

General HAINS. No, sir. If there should be any opening, the earth would fall into that opening and there would be some settlement of the dam. That is all that would occur.

Senator MORGAN. That is exactly what I am expecting, that there would be a settlement of the dam.

General HAINS. That would not do any harm.

Senator MORGAN. If it produced fissures, when you had 85 feet head of water on it, a small crack might produce absolute destruction?

General HAINS. Well, if it produced a large fissure and that fissure remained open and water got running through it, yes. But I do not see how such a thing as that could occur in there.

Senator MORGAN. If you will think a moment, General, of the way the crawfish serve the levees on the Mississippi River you will find it out. A crawfish will bore a hole through one of those levees in the night, and the next morning it is a crevasse.

General HAINS. Yes; but the distance through a levee is a very different thing from the distance through that dam.

Senator MORGAN. That dam would have a very long reach; but I suppose a crack or a fissure might occur in it that would reach, say, half a mile through it, or a mile, even a small one; and would not that endanger the whole structure? You have no rock core there to resist it, nothing to resist the fissure that might be attacked by the water at 85-foot level. Suppose that fissure occurred 10 feet under the water and was half a mile long, from the settling of the dam and the settling of the stuff that you put in there to continue the barricade made by the mountain, would not that be an element of danger in that dam?

General HAINS. I do not think there would be any more element of danger than if you had a core wall in there, because I think your core wall would break, too, if you had a convulsion of nature that would open a space wide enough for the water to run through there. The destructive effect would also break your core wall.

Senator MORGAN. Yes.

General HAINS. So that, under such circumstances as that, I do not see that you would be any better off with a core wall than without it.

Senator MORGAN. That hill through the center of which you cut your spillway is a volcanic hill or elevation?

General HAINS. Well, I do not know.

Senator MORGAN. Does anybody know?

General HAINS. No; I do not think anybody does know.

Senator MORGAN. Have these gentlemen who have projected this dam there ever bored into that hill to examine what was in it?

General HAINS. Where the spillway goes?

Senator MORGAN. Yes.

General HAINS. Oh, yes, sir. I understand that there were borings made in that. We have a record of them here.

Senator MORGAN. Have you any statement anywhere in these papers, or do you know of any fact in regard to it, that will show what kind of rock they found in that hill?

General HAINS. I think so. There are in this hill here six borings right in the hill. Then these others are just beyond it. The spillway goes right through there [indicating on map].

Senator MORGAN. Have you any remembrance, or are you able to state, or has anybody stated, what the material is that they get in these borings—what kind of rock they found?

General HAINS. In these [indicating on map]?

Senator MORGAN. Yes.

General HAINS. There they are, right there. That is it, on the blueprint [indicating].

Senator MORGAN. The character of the material?

General HAINS. That is it, there. Take boring 35 + 14. There it is, right there; from there down to there, to rock [indicating on

profile]. That is that one. That hole there (on map), Senator, is represented vertically there (on profile). It has gone into the rock just that depth.

Senator MORGAN. What kind of rock is it? That is what I want to get at. Is it basalt or volcanic rock?

General HAINS. No, sir. That is what they call the indurated clay. Indurated clay is not the proper name for it. I think Mr. Harrod had better give a definition of that. He has investigated that matter, and he knows what is the scientific explanation of that word, which has been so used, and used with such misunderstanding, this word indurated clay.

Senator MORGAN. I have always misunderstood it. At least, I have never understood it, and therefore have always misunderstood it.

General HAINS. Well, I think if you will just forget the words "indurated clay" and say "rock" you get a better idea of that thing, because it is really rock. I would like Mr. Harrod to just explain that to you. He knows about that.

Senator MORGAN. We want to know what kind of rock it was, and whether it was volcanic or not.

General HAINS. He can tell you better. He has looked into that more than I have.

Senator MORGAN. Along the coastal plain of Panama, in the vicinity along both east and west of the Chagres River, there are these sugar-loaf hills springing up.

General HAINS. Yes, sir.

Senator MORGAN. Not connected by ridges with each other at all.

General HAINS. I know.

Senator MORGAN. Just like potato hills by themselves.

General HAINS. Just like sugar loaves.

Senator MORGAN. I am very much interested to know how they got there, and I suppose that we have got men of science that ought to be able to say. My poor private judgment is that they have all been thrown up exactly in the same way that those mud craters were thrown up in 1882, when the earthquake passed across from Panama to Colon and up the coast toward Bocas del Toro, where these mud volcanoes, miniature volcanoes, were thrown up, and through them came hot water and other evidences of volcanic action.

I have supposed that those mounds were made in the same way, by convulsions of nature, and that they are all volcanic. If they are, then that probably accounts for this queer stuff which underlies that country that we call indurated clay. It may probably show that it is volcanic tufa or ashes that have been indurated there from the pressure of time or air or water or overlying strata, or what not, until it has been compacted together like a rock. It is not sand; it is not granite; it is not, as I understand, any stratified rock.

General HAINS. No, sir; but it is very hard; and it stands well in the weather. I have seen the dock that is used down there on the Isthmus, right close by this place, only a short distance below, where the walls have been cut right down vertically into it, and it stands like the wall of this building.

Senator MORGAN. When you get over into the Culebra cut and into the wells that the French dug down there, that same stuff does not stand at all?

General HAINS. That is not the same stuff.

Senator MORGAN. Does it not look exactly like it?

General HAINS. No, sir.

Senator MORGAN. What is the difference in appearance between the two?

General HAINS. Well, I do not know what the difference would be. I am not a geologist.

Senator MORGAN. I do not suppose any of us are.

General HAINS. And I do not know; but I do know that under the action of the air there is some material which is classed as indurated clay over there in the Culebra cut——

Senator MORGAN. That goes to pieces?

General HAINS (continuing). And after it becomes dry you put it in water and it all melts. There is some of that. This is not that, as is evident from the fact that there is a dock that has been there for I do not know how many years; but I presume for twenty years, and vessels are taken in there and docked. I was looking at it only the last time I was down there.

Senator MORGAN. Right in this indurated clay?

General HAINS. Right in this indurated clay. It makes a splendid vertical wall, and as for a foundation for any kind of engineering structure, I would put the Washington Monument on it.

Senator MORGAN. And nevertheless here are two great gulches that you can not account for, that were washed right out of this indurated clay?

Senator HOPKINS. He did not say that they were washed out of that.

Senator MORGAN. I think he did. He said he could not say how else it happened.

Senator KITTREDGE. That was this morning, Senator.

Senator HOPKINS. I know he balked at that this afternoon.

General HAINS. What is that? About how it was formed?

Senator HOPKINS. About its being washed out.

General HAINS. I do not know. I know that it is the opinion of geologists that it has been washed out by the water, and maybe it has.

Senator HOPKINS. If that occurred, it was millions and millions of years ago, was it not, when this was all soft material?

General HAINS. It was a good many years ago; yes. According to geologists it was perhaps millions of years ago.

Senator MORGAN. It has only been twenty-four years since there was an earthquake that passed right along the line of this canal that shook cathedrals down, killed men in Colon, tore houses down, and formed mud volcanoes up as far as Bocas del Toro. That has only been twenty-four years ago.

General HAINS. It did not knock the cathedral down, Senator, because the cathedral is there yet.

Senator MORGAN. It knocked down the tower of it and other churches were torn down.

General HAINS. And it did not injure, and there has not been any injury in something like, well, as nearly as they can tell, it was about some two or three hundred years ago, a building was put up there with an arch much flatter than that [indicating], and wider.

Senator MORGAN. In the first report that you made, General, to the Government of the United States, you said that there were thirty-four earthquakes that had occurred there in Panama. I think it was either thirty-two or thirty-four.

General HAINS. You know there are earthquakes—

Senator MORGAN. And earthquakes.

General HAINS. And there are earthquakes. There are some very little seismic disturbances that might be called earthquakes, and yet do no damage at all.

Senator MORGAN. But this disturbance, General, did actually destroy houses in Panama.

General HAINS. There was an earthquake. I do not remember just exactly the year.

Senator MORGAN. It was twenty-four years ago. That was when it was. And it crossed clear through the Isthmus, and it put the railroad bridges off of their bearings.

General HAINS. Yes.

Senator MORGAN. And inflicted very considerable damage upon the railroad itself, even to the twisting of the rails, and it passed into Colon and threw houses down, and killed men, and then it passed on up the coast to Bocas del Toro, leaving in its trail these pits of volcanic mud, through which steam came up. That is a pretty recent event. I am older than that, even young as I am.

Senator HOPKINS. That line of argument, Senator, would show that you can not build any kind of a canal across the Isthmus there.

Senator MORGAN. Well, it satisfied me a long time ago that you could not do it. I have always said that you could not. [Laughter.] The further we get into it the better I am satisfied that you can not, to make it stay there.

There are still facts and problems that we can not account for, and we can not tell whether they are to be a million years repeating themselves or twenty-four years. We do not know about it. But when a fact like the earthquake of 1881 occurred there, it is the part of good common sense to expect it to come again, is it not?

General HAINS. Yes; and I do not believe such an earthquake as we had then would do this dam any damage whatever, Senator.

Senator MORGAN. You would not like to take the risk of it, would you?

General HAINS. Yes; I would be willing to take the risk of it.

Senator MORGAN. If you were operating on somebody else's money; but suppose you had all of your own money up on it?

General HAINS. If anybody will give me money enough to do it, I will take the risk.

Senator MORGAN. If anybody will give it to you, yes; but if you had to work for it and earn it, and pay taxes on it, and accumulate it, it would be quite a different story. We are trying to take care of the people here—at least, I am. That is all I will ask you about that part of this business.

General, you have been connected with this canal and the project which we are trying now to work out, after two years and a half of effort—you have been connected with it as an engineer since when? When were you first connected with it?

General HAINS. You mean the whole question of the canal across the Isthmus?

Senator MORGAN. When were you first connected with this project officially?

General HAINS. This particular project?

Senator MORGAN. No; making the canal at Panama?

General HAINS. You do not refer to Nicaragua, but—

Senator MORGAN. No; I am just talking about Panama; the time you first went there, if you please?

General HAINS. We were a little over two years—two years and a half on the first Commission and then I have been a little less than a year on the present Commission.

Senator MORGAN. This is the commission of construction, and that was the commission of exploration?

General HAINS. Yes, sir.

Senator MORGAN. You were two years and a half on the first Commission and spent about how much time—about thirty days on Panama during that time?

General HAINS. Well, perhaps something like that.

Senator MORGAN. I think that is it—thirty-one or thirty-two days.

General HAINS. I do not remember the time.

Senator MORGAN. From that time until to-day you have been officially connected with that work?

General HAINS. No, sir.

Senator MORGAN. You have not?

General HAINS. Oh, no, sir.

Senator MORGAN. Where did the break occur?

General HAINS. From January, 1902, or a little later than that, until a year ago. I was not on the first constructing commission.

Senator MORGAN. You were not on the first construction commission. You were on the second?

General HAINS. I am on the present one, but I was not on the first one.

Senator MORGAN. You took your appointment at what date?

General HAINS. The 1st of April, last.

Senator MORGAN. The first of April, 1905?

General HAINS. Yes, sir.

Senator MORGAN. You were familiar with the condition of that canal and of the Canal Zone and the cities of Panama and Colon, and the Bay of Limon and the Bay of Panama. At the time you were making this survey or exploration you knew that whole situation?

General HAINS. I became familiar with it during that time; yes, sir.

Senator MORGAN. It was a part of your business to study it?

General HAINS. To become familiar with it, yes, sir.

Senator MORGAN. You knew it at the time that the canal company turned it over to the United States?

General HAINS. Yes, sir.

Senator MORGAN. General, I shall be glad if you will give to this committee a description of the situation of that enterprise at the time you examined it, in regard to the work that was being done, the hands that were being employed, the government of the canal line, the state of the improvement or dilapidation, as the case may be, in regard to the work that had been done previously by the French company, and the amount of work, depth of the cut through, for instance, Culebra, the amount of digging that had been done there, the length of the canal that had been dug, how much of it had filled up and through whose neglect it filled up, and all that. Just give an account in narrative form of the situation.

I will state to you my purpose. I want to ask you further, after you give your narrative, so as to show what was to be done there in

order to inaugurate and conduct the work we are trying now to carry on. I want to show what task lay before that first commission of construction, and give the country a fair idea of the task that those gentlemen had to perform.

Senator KITTREDGE. Senator, before he answers that question, may I ask one or two questions?

Senator MORGAN. Yes.

Senator KITTREDGE. You were appointed to the present Commission April 1, 1905?

General HAINS. Yes, sir.

Senator KITTREDGE. When did you first go to the Isthmus after that date?

General HAINS. In July.

Senator KITTREDGE. How long did you remain there that time?

General HAINS. About two weeks; a little less, I suppose. About two weeks.

Senator KITTREDGE. When did you return to the Isthmus after you returned to this country?

General HAINS. I have not been down to the Isthmus since then.

Senator KITTREDGE. Was General Ernst with you on the first trip?

General HAINS. No, sir.

Senator KITTREDGE. Was he at the Isthmus at any time since his appointment?

General HAINS. Yes, sir.

Senator KITTREDGE. When?

General HAINS. Since this last appointment he has been down there two or three times—twice.

Senator KITTREDGE. When was that?

General HAINS. He went down in August, 1905; the latter part of July or the first part of August, 1905. Then he was down there again—

Senator KITTREDGE. How long did he remain that time?

General HAINS. I do not know exactly, but I think it was something like two or three weeks.

Senator KITTREDGE. When did he next go down?

General HAINS. In September.

Senator KITTREDGE. With the Consulting Board?

General HAINS. Yes, sir.

Senator KITTREDGE. And returned with them?

General HAINS. Yes, sir.

Senator KITTREDGE. Has he been there since?

General HAINS. I think not.

Senator KITTREDGE. That is all that I wish to ask at this time.

Senator MORGAN. Now, I will ask that my question be read.

(The stenographer read as follows:)

“Senator MORGAN. General, I shall be glad if you will give to this committee a description of the situation of that enterprise at the time you examined it in regard to the work that was being done, the hands that were being employed, the government of the canal line, the state of the improvement or dilapidation, as the case may be, in regard to the work that had been done previously by the French company, and the amount of work, depth of the cut through, for instance, Culebra, the amount of digging that had been done there, the length of the canal that had been dug, how much of it had filled up, and through

whose neglect it filled up, and all that. Just give an account in narrative form of the situation."

General HAINS. You are referring there to the first visit we made in 1899?

Senator MORGAN. Yes.

General HAINS. When we arrived there we found that the French had in their employ from about 700 to 1,000 men. They had a number of excavators at work on the Culebra Cut, and were excavating about 75,000 cubic yards, I think, per month. They had employed dredges on the two ends of the canal, and had done an amount of dredging. They had excavated some of the rock at Bohio, where they proposed to put locks. A certain amount of work had also been done above Bohio and up to San Pablo in rock. Some rock excavation had been done on the Pacific side. They had also excavated a considerable amount of what we call diversion channels—that is, diversions for the Chagres River and its tributaries. Altogether they had excavated something like 77,000,000 cubic yards of material.

A great deal of plant had been accumulated on the Isthmus, a large amount of machinery, and a large number of buildings had been erected. Hospitals had been erected over here at Panama on Ancon Hill. They had also accumulated there a number of dredges and boats. They had I do not know how many dredges, but quite a number; perhaps nearly twenty. They had a large amount of what you might call railroad plant; that is, they had great quantities of railroad track, they had a great number of locomotives, and a large number of cars; and these things were scattered along the line of the canal from one end to the other. They had erected repair shops and that sort of thing.

Senator MORGAN. By "scattered" do you mean scattered in use or scattered in abandonment?

General HAINS. Some scattered in use, and some piled up outdoors, and some in buildings. They had constructed something like 2,300 buildings of all kinds for the storage of this material and for the protection of their employees, but a great deal of this was in a very dilapidated condition. It had not been taken care of for part of the time, but some of it was in fair condition. There was one big storehouse that I remember—I think it was at Gorgona—that was just filled with all kinds of hardware. It was like a great, big hardware store. There was every kind of crosscut saw, every kind of bolt you could imagine, nuts, and so forth, and those things were all in good condition. In some places, however, the weeds had grown up around this material, and it was difficult to find where it was. There were locomotives there that we could hardly find, and cars.

But notwithstanding all that the French Company, the new company, had picked out a certain amount of this plant and were utilizing it on the Culebra Cut. They had regarded that Culebra Cut as, you may say, the controlling feature of the work, and they went to work to find out what was in it. That was what they were working on at the time we were there, and it was the only thing that they were working on.

Senator MORGAN. Finding out what was in that hill?

General HAINS. Yes, sir; trying to find out what was in that hill. At the same time that they were doing all this they were making surveys, as I understand. Now, I can not speak positively about the date when these surveys were all made, but they were making surveys,

and they made a great many surveys. Of course, they had to extend their surveys after they had agreed or about agreed to make a lock canal instead of a sea-level canal.

As to the government down there, I do not know anything about it. The government at that time was the Colombian Government, under the control of the Government of Colombia, and this corporation was a private corporation working in that country. They had had a great deal of trouble from sickness; and it is stated that they were very deficient in the means of accommodating the sick people, and lost a great many hands for that reason. So that when we undertook to make a valuation of this property and the condition of affairs down there, we came to the conclusion that about all that was worth anything to the United States was the amount of excavation that had been done and the surveys that had been made, and, of course, the Panama Railroad. The surveys, as a rule, were very good, very accurate, and very complete, and many of them. They did not make so many borings; but their topographical surveys were very complete.

Does that answer your question, Senator?

Senator MORGAN. I think it does, substantially. You have not said anything about the filling up of the prism of the canal that they had dredged out or dug out.

General HAINS. Oh, well, of course the Chagres River had not been taken care of, and the water came down the Chagres River as usual, and wherever it got a chance to reach a part of the canal where work had been done, of course it brought down sediment and largely filled it up; and there was a great deal of it that had been filled up to a certain extent.

Senator MORGAN. Were those fillings distributed pretty well between Colon and Bohio?

General HAINS. Yes, sir.

Senator MORGAN. All the way down?

General HAINS. There were more of them, down the farther you go.

Senator MORGAN. So that the part of the canal which had been opened was utterly impracticable for any commercial use, was it not?

General HAINS. Oh, yes; it was utterly impracticable.

Senator MORGAN. It was a filled-up ditch, as we call it?

General HAINS. Yes; it was largely filled up.

Senator MORGAN. Obstructed?

General HAINS. It was very much obstructed; but it was obstructed more at points, Senator. There were deep places on a great deal of the constructed portion of the canal.

Senator MORGAN. Yes; of course. Opposite the mouths of streams that came into the Chagres River, of course, there would be banks of silt and obstructions of different kinds?

General HAINS. Yes, sir.

Senator MORGAN. How was it on the other side, between Pedro Miguel and La Boca?

General HAINS. Pretty much the same thing.

Senator MORGAN. It was filled up?

General HAINS. To a certain extent; yes.

Senator MORGAN. While they were working on the Culebra Heights and were doing some work there, you say, with shovels—

General HAINS. They had what they called "excavators."

Senator MORGAN. Excavators?

General HAINS. Yes, sir; they were not steam shovels such as we have now, used on railroad work or on excavating work, but they worked somewhat on a different principle.

Senator MORGAN. They worked by steam, though?

General HAINS. Yes, sir.

Senator MORGAN. And they had the assistance of men with picks and shovels, etc.?

General HAINS. They did not have many of those.

Senator MORGAN. Some of that railroad track that they had built in there, and some of the engines and cars, etc., I suppose, from the accounts you have given me this morning, were covered up by slips or slides?

General HAINS. Not in the Culebra cut; no, sir. What I meant was along the line. They had shipped great quantities of this stuff down there, and they had to put it somewhere, and they had laid off tracks almost anywhere.

Senator MORGAN. At the time you arrived at the Isthmus there were propositions pending for the sale of the canal property to the United States—the transfer of the canal property?

General HAINS. At the time we went down there?

Senator MORGAN. Yes; made through Admiral Walker?

General HAINS. No, sir; not at the time we went down there, Senator. We went down there at the time we were first organized—that is, within a few months after we were organized, and there was no proposition of sale made until a couple of years after that.

Senator MORGAN. You were invited down there by the French canal people to make the surveys?

General HAINS. We were invited, but we would have gone whether we were invited or not.

Senator MORGAN. But you had no right to go without their invitation; it was a foreign country.

General HAINS. Well, we might not have had any right, but I think the right would have been extended to us.

Senator MORGAN. It was not necessary to stand on manners, however, because they wanted you to go?

General HAINS. They wanted us to go; yes.

Senator MORGAN. Yes.

General HAINS. They wanted us to see just the situation there.

Senator MORGAN. Then you made a visit to Paris, did you not?

General HAINS. We made the visit to Paris first.

Senator MORGAN. Before you went there at all?

General HAINS. Yes, sir.

Senator MORGAN. There you entered into examinations into titles and plans and all that—the engineering and everything connected with this work they had been doing there?

General HAINS. We did not go much into the question of titles. We devoted our attention chiefly to the consideration of plans.

Senator MORGAN. Plans?

General HAINS. Plans; yes, sir.

Senator MORGAN. But you had it in mind that it might be possible that you could make a trade with the Panama Canal Company, or perhaps get a secession of Panama, or something like that; and at all events, there was an opportunity to get into possession?

General HAINS. A secession of Panama never entered my mind.

Senator HOPKINS. Mr. Chairman, I do not like to interrupt the Senator; but I can not see where that line of investigation is relevant. That is a closed incident, and I do not know why the time of the committee should be taken up with it. If it is a matter that the Senator himself wants information about it ought to be taken up at some time outside of the committee, it seems to me.

Senator MORGAN. As to the closed incident, as long as there is a heart in America that appreciates the honor of this country, that incident will never be closed from investigation and from free speech. I am not undertaking to get into the matter of secession, however; I made that remark humorously to the General, the idea being that they had in view at that time the acquisition of the property there by purchase or by some other method. I suppose that really no other method was contemplated; particularly not the method of capturing it from Colombia.

Senator HOPKINS. Well, Mr. Chairman, I for one protest against this line of examining the witnesses, because it is not pertinent to anything that we have before us as a committee; and as a legal proposition it is a closed incident.

Senator MORGAN. I was trying to apologize.

Senator HOPKINS. As a matter of historical reminiscence, it may be of interest to people that indulge in that, but for committee purposes it is not.

Senator MORGAN. I was trying to apologize, Mr. Chairman, for having, perhaps thoughtlessly, intruded upon the feelings of my friend here about this matter. But I will let that pass.

The CHAIRMAN. You may proceed, Senator, and we will see how we get along.

Senator MORGAN. I want to know whether you were invited to go to Paris by the Panama Canal Company or by any agent or person connected with it?

General HAINS. I do not think I was invited. I think I just made up my mind that I was going over there.

Senator MORGAN. But you went in a body?

General HAINS. Yes; we went in a body.

Senator MORGAN. There was some understanding, I suppose, that when you got there you would have an opportunity of investigating the affairs of the Panama Canal Company?

General HAINS. Oh, I think the authorities there had been notified that we were coming.

Senator MORGAN. How did that all come about? Who did it, and how was it done? How did it ever happen that there was any communication between you and the authorities in France about this United States Commission going over there to make an examination of this subject? Who brought it about, and how did it happen?

- General HAINS. I do not know.

Senator MORGAN. Do you remember any communication from the director-general of the Panama Canal Company to the American Isthmian Canal Commission to go to Paris to examine into the situation there before you made an examination on the Isthmus?

General HAINS. I do not remember, but I think it is quite likely we had an invitation. I do not know. I can not say, now.

Senator MORGAN. Did you meet any agent of that canal company that was active and hospitable and influential and friendly and kind about getting these communications?

General HAINS. Oh, we had the chief engineer, we had the director, and—well, they were the two principal ones, and they had access to all the records, and they gave us all the information they could about it.

Senator MORGAN. Was there any American that was active in this business in getting you to go over there and providing hospitality, etc.

General HAINS. No, sir.

Senator MORGAN. No one at all?

General HAINS. Not that I know of. No, sir; I made up my mind that I was not going to report on that plan or on that route until I had gone to Paris and examined the records.

Senator MORGAN. That was before you had ever been on the Isthmus?

General HAINS. Oh, no, no; I had been on the Isthmus before, on a previous commission.

Senator MORGAN. A previous commission, yes; but I am asking whether it was before the Board ever went there?

General HAINS. That was before the Board went there.

Senator MORGAN. Now, the Walker Canal Commission, before they ever went to the Isthmus at all, went to Paris?

General HAINS. Yes, sir.

Senator MORGAN. And made an investigation there. What did they go there for?

General HAINS. To look at the maps, to see what the Frenchmen had in the way of records, papers, and all kinds of things. Then we wanted also—that was not the only object we had in going to Europe. We did not confine ourselves to a visit to Paris. We went and visited all the big canals there. We went to the Kiel canal, the Amsterdam canal, the Manchester Canal. All those were taken in in our examination. We wanted to get information.

Senator MORGAN. But you had distinctly in view the question whether or not you would ever recommend a canal at Panama? You had that distinctly in view, and you went to examine the Panama scheme?

General HAINS. We wanted to find out everything about it.

Senator MORGAN. Yes; and you had that proposition in view, that there was an expectation or a prospect that you would be authorized or required to recommend the Panama scheme to the United States Government? You had that all in view before you went there?

General HAINS. That there was a possibility that we might recommend the Panama route; yes, sir.

Senator MORGAN. How did you get that idea about it; from discussions with people, or just your own suggestions?

General HAINS. Why, the law required us.

Senator MORGAN. The law required you to go to Paris?

General HAINS. No, sir; it did not require us to go to Paris. It required us to report as to the most feasible and practicable route for a canal across the Isthmus.

Senator MORGAN. That was because you were engineers, and, I suppose, because the Congress of the United States desired to know what American engineers had to say about this American route; not about the situation in Paris. I do not remember that anything of that sort

occurred. Now, General, did you not go there because you knew that propositions were to be made for the transfer of that canal to the United States?

General HAINS. For that alone?

Senator MORGAN. I did not say "alone." Was that one of the reasons you went there—because you knew that propositions were to be made for the transfer of that canal to the United States?

General HAINS. I can answer that question in this way—that I did go there with an idea in my mind that possibly there might be a transfer of that property to the United States.

Senator MORGAN. Was that just a remote imagination of yours, or was it founded upon facts that you knew of in regard to a transaction of the kind?

General HAINS. It was founded on the fact that we were going to report as to which was the best route, because there were other routes besides Panama and Nicaragua, and we wanted to find out all about it; and we wanted to see the Kiel Canal, the Amsterdam Canal, and the Manchester Canal, and not alone to go to Paris.

Senator MORGAN. You did not have to go to Paris to see either the Kiel Canal or the Amsterdam Canal or any other canal?

General HAINS. No; but we—

Senator MORGAN. You went there to get information in regard to the Panama route?

General HAINS. Yes; we went there to get information in regard to the Panama route.

Senator MORGAN. And before the Commission had ever been to Panama?

General HAINS. Before the Commission as a body had ever been to Panama.

Senator MORGAN. I am trying to find out if I can, General, whether there was not at that time some proposition pending that would be agreeable to the French Government and agreeable to the Panama Canal Company by which the property was to be Americanized, or taken over by the United States.

General HAINS. Oh, I have seen that matter discussed in the papers, but I do not think that that was considered in the Commission. I do not remember of its being considered.

Senator MORGAN. Why did you not go to Colombia and ask her if she was willing that you should take the job off of the hands of the Panama Canal Company?

General HAINS. I do not know.

Senator MORGAN. That would have been a very nice thing to do, would it not—a very proper thing?

Senator HOPKINS. They had no authority for it, did they?

General HAINS. I do not know about that, either, Senator.

Senator MORGAN. You never thought about that. You knew that Colombia owned Panama at that time, did you not? She had granted the concessions for the canal?

General HAINS. I knew that the State of Panama was a part of the Republic of Colombia; yes, sir.

Senator MORGAN. And that Colombia had granted the concessions to the French Company?

General HAINS. Yes, sir; I knew that.

Senator MORGAN. And you knew that if you took it over at all it would be necessary to see Colombia about it, at some time or other, and in some fashion or other?

General HAINS. It would have been necessary to have made some arrangement with Colombia.

Senator HOPKINS. General, the facts were known to all the American people, were they not, just as well as to the Commission?

General HAINS. I think so. I think they were known to everybody.

Senator MORGAN. I must protest that I did not know them.

Senator HOPKINS. You may be an exception, then.

Senator MORGAN. I hardly think I am by many millions.

The CHAIRMAN. Senator, I did not know that there was anything in connection with that project down there that you were not informed about.

Senator HOPKINS. The general impression in this country is that he knows as much about it as anybody.

Senator MORGAN. I am in just the same situation as this committee is to-day, with a lot of suspicions in their minds and not any satisfactory information or the possibility, probably, of ever digging into it. That is the situation I am in.

Senator TALIAFERRO. General, when the Commission went to Paris, had a proposition been made to sell that French property to this Government?

General HAINS. I do not think it had, sir. I do not think it had been made by anybody: In fact, I am quite sure that it had not been.

Senator MORGAN. Did you know at that time of any American that had a right derived from the Panama Canal Company to sell that property to the United States, or to sell it to any syndicate that might be formed here?

General HAINS. No, sir; I did not.

Senator MORGAN. You did not hear of it?

General HAINS. No, sir.

Senator MORGAN. I am afraid they did not have confidence in you, General, such as I have. They were afraid to trust you. [Laughter.] However, you went there, and you were entertained there by the Frenchmen?

General HAINS. The Frenchmen gave us a dinner, and we gave them a dinner. We had that much entertainment, and no more.

Senator MORGAN. I am glad you had that much. Then you came back, and then you went afterwards to the Isthmus of Panama.

General HAINS. Oh, no; I did not come back.

Senator MORGAN. You went from there to the Isthmus?

General HAINS. Oh, to Panama—yes; I thought you meant to the other canals.

Senator MORGAN. No; you came back to New York, and then went down to Panama?

General HAINS. And then in December, I think it was, we went down to Panama.

Senator MORGAN. About what time did you get back from Paris, if you remember?

General HAINS. Let me see. I think we were over there altogether about six weeks.

Senator MORGAN. In Paris?

General HAINS. No, sir; we were between two and three weeks, I think, in Paris, and the remainder of the time was taken up in going to Kiel and examining the Kiel Canal, the Amsterdam Canal, and the Manchester Canal.

Senator MORGAN. Then, how long was it before you got down to the Isthmus again?

General HAINS. We left here, I think, to go to Paris about the latter part of July or the first of August, and we went to Panama about December.

Senator MORGAN. Yes, in December; and you spent about thirty or thirty-one days there?

General HAINS. No; we spent about three months there.

Senator MORGAN. At Panama?

General HAINS. On the Isthmus. No; we did not stay at Panama all the time. We went to Nicaragua first.

Senator MORGAN. I am not talking about Nicaragua; I am talking about what time you spent at Panama.

General HAINS. You asked me what time we left New York.

Senator MORGAN. Yes.

General HAINS. When we went south there we did not go to Panama alone; we went to these other places.

Senator MORGAN. I know; you went to Nicaragua first?

General HAINS. Yes.

Senator MORGAN. What I wanted to get at is when you arrived at Panama, as near the date as practicable, and how long you staid there.

General HAINS. I think we were on the Panama Isthmus something like about three weeks.

Senator MORGAN. That is my calculation; I think it is a little more than that. I think it was about thirty days.

General HAINS. I think perhaps it was. I do not remember exactly, but it was somewhere about that time.

Senator MORGAN. Now, during that time, after your arrival from Paris in New York and before you went down to Nicaragua and Panama, this subject of the taking over of the Panama Canal was publicly discussed in the newspapers, was it not?

General HAINS. Yes, sir.

Senator MORGAN. There got to be quite rife, active inquiry about taking it over?

General HAINS. I do not remember much about that, Senator. I know, just as a general fact, that the question was for us to report on the most feasible and practicable route, and Nicaragua and Panama were the two prominent ones. Then there were some others also.

Senator MORGAN. Did you meet Buneau-Varilla while you were in Paris?

General HAINS. No, sir; I never saw Buneau-Varilla until, I think, about the latter part of 1901, over here.

Senator MORGAN. Did you meet General Abbot over there?

General HAINS. Yes, sir.

Senator MORGAN. What was he doing there?

General HAINS. He at that time was a member of the technical commission of the French company.

Senator MORGAN. And you conferred with him about the canal situation, of course?

General HAINS. Yes, sir.

Senator MORGAN. He was then in the employment of the French Government, was he not, or the Canal Company?

General HAINS. I think he was.

Senator MORGAN. And he continued so for a long time?

General HAINS. My understanding was that he was at that time, and was continued for some time afterwards, but how long I do not know.

Senator MORGAN. Several years—two or three years?

General HAINS. I do not think as long as that, Senator; but still I do not know.

Senator MORGAN. You do not know?

General HAINS. No.

Senator MORGAN. Then when you got to Panama in your explorations this subject opened up, and it got to be a matter of very considerable interest, I suppose, to a good many people about whether the canal should be located at Panama or up here at Nicaragua. That was a great controversy at that time, was it not?

General HAINS. Yes, sir.

Senator MORGAN. Was that about the time that the *Oregon* doubled the Horn and came up to Santiago, or a little before?

General HAINS. Oh, that was afterwards.

Senator MORGAN. Yes—afterwards. Now, General, you were put upon this commission of execution or of work on the canal in April, 1905?

General HAINS. Yes, sir.

Senator MORGAN. You went down there and made an inspection of the work?

General HAINS. Yes, sir.

Senator MORGAN. How long after your appointment?

General HAINS. A little over three months.

Senator MORGAN. Was the yellow fever prevailing down there during that period of three months?

General HAINS. Yes, sir.

Senator MORGAN. And I suppose that was a reason, and a very good one, why the Commission did not want to go down there?

General HAINS. I do not know that the Commission were anxious to jump into a place where there was yellow fever, but I do not think the Commission were trying to shirk it, if it was proper for them to go.

Senator MORGAN. Well, they found plenty of work to do here?

General HAINS. Yes, sir; there was plenty of work. You see, Senator, when this new Commission was organized, it was organized on an entirely different basis from the old Commission.

Senator MORGAN. And with new material?

General HAINS. Nearly all new material. Before that the construction of the canal was confided to the Commission. Under the President's order pretty nearly all the duties were transferred to the chairman, the governor, and the chief engineer.

Senator MORGAN. I know there was a complete change in the programme of government and construction?

General HAINS. Yes; and the other four members became practically consulting engineers to the chairman.

Senator MORGAN. I understand that. I do not care about going into the particulars of the form of the reconstruction. I want to get at the fact that there was a reconstruction, new officers were put in,

including the Commissioners and a great many other additional officers, and that after your appointment, and after you had participated in arranging this new organization, you went down there to put it into effect, and that—

General HAINS. No, sir; I did not go down there for that purpose.

Senator MORGAN. I am not speaking of you personally; I am speaking about the Commission.

General HAINS. No, sir; the Commission did not go down for that purpose. I did not go down there with the Commission. I went down there along with Major Harrod in July, because Mr. Wallace had just resigned and had left things down there in such a condition that the Commission did not know exactly what the state of affairs was; and we had a meeting, and at the meeting it was ordered that Major Harrod and myself should go down there immediately and see what the conditions were.

Senator MORGAN. Mr. Wallace had not been a member of the Commission prior to April, 1905?

General HAINS. No, sir.

Senator MORGAN. He was put into the new Commission?

General HAINS. He was put in at the same time I was.

Senator MORGAN. And then he resigned somewhere about June?

General HAINS. The 1st of July, I think it was, or the latter part of June.

Senator MORGAN. The latter part of June or the first of July; yes.

General HAINS. Yes.

Senator MORGAN. And then you went down there with Mr. Harrod for the purpose of looking at the situation and seeing how everything was getting on, what work was being done, and all about it, and to examine the situation?

General HAINS. To try to find out what had been done.

Senator MORGAN. Yes. Now, I want to take the period when you went there—that is what I want to get at—and to ascertain from you, by comparisons with the situation that existed there at the time you made your first visit, as to what work had been done by the first commission of construction, headed by Admiral Walker?

General HAINS. In starting a great work like that, Senator, there is a great deal that has to be done, and a great deal had been done. At the time we were there, so far as you could see on the surface, there was not much difference in the amount of work done; but there had been an organization perfected, and they had gotten to work and had excavated something like 800,000 to 1,000,000 cubic yards of material out of the Culebra Cut.

Senator MORGAN. This first Commission?

General HAINS. The first Commission had; yes, sir. Now, those figures, Senator, are just rough figures. I may have over-estimated that; I think perhaps I have.

Senator MORGAN. I know; but the reports will show what it was?

General HAINS. Yes.

Senator MORGAN. That work was really premature, was it not? The condition of the other parts of the establishment between Colon and Panama was not such as to justify going regularly to work and digging out the Culebra Heights? It would have been just as well if that work had been omitted, would it not?

General HAINS. I think it would have been a great deal better if they had not undertaken it at all.

Senator MORGAN. But you remember an outcry, do you not, in the country here, about "making the dirt fly?"

General HAINS. Yes.

Senator MORGAN. You remember that?

General HAINS. Oh, I have seen it.

Senator MORGAN. You remember the pledges of some great, leading members of the Cabinet that we were going to work to "make the dirt fly?"

General HAINS. I do not know who did it, Senator; but I know that I have heard of "flying dirt."

Senator MORGAN. We all know, except you, who made it. Now, was there not, General, a very great pressure in this country to have that digging going on at once and very rapidly while this first Commission were merely making preparations, or trying to make preparations, to conduct the work successfully and economically? Was there not very great pressure about it?

General HAINS. I think a great many people had an idea that all they had to do was to send out a lot of people there and fling the dirt out of a ditch, and get the canal built quickly in that way.

Senator MORGAN. And that was in fact the last work you had to do after you got ready for it?

General HAINS. I think there ought to have been about two years spent in preparation.

Senator MORGAN. Two years?

General HAINS. Yes, sir.

Senator MORGAN. Now, General, in the way of preparation, except the diversion of this work into the Culebra Cut, did you see any want of diligence or attention or enterprise amongst the Commissioners or their employees in what they had been doing down there? Did you find that they had been loitering and disregarding their work, or anything of that kind? I refer to the old Commission that preceded you.

General HAINS. No, sir; I can not say that I saw any evidence of neglect on the part of the old Commission.

Senator MORGAN. Or of any of their employees?

General HAINS. No; I do not think on the part of any of the employees, either.

Senator MORGAN. Did you hear any accusations brought by anybody against the old Commission to the effect that they were not devotedly performing their duty there in trying to put that work on its feet so that it could be done in a rational way?

General HAINS. I saw all kinds of statements in the papers, you know, Senator; that is about all. I never saw anything else, or never heard of anything else, except reports in the papers; that is all.

Senator MORGAN. Those reports, as of course we know, are not predicated upon a knowledge of the situation.

General HAINS. No, sir; they are not.

Senator MORGAN. And therefore they were either mistakes or else misrepresentations. Now, do you know of any cause, affecting all or any of the members of the first Commission, for their removal?

General HAINS. Cause for removal of the members of the Commission?

Senator MORGAN. Yes; all of them or any of them?

General HAINS. I do not see how I could very well, Senator, become acquainted with any cause for that; because, you know, I had nothing to do with the Commission. I was only a citizen of the country.

Senator MORGAN. You were a Commissioner, of course?

General HAINS. No; not at that time.

Senator MORGAN. But I mean when you went down there to make this inspection.

General HAINS. Oh, yes.

Senator MORGAN. Yes, sir; and you were looking over what had been done?

General HAINS. Yes.

Senator MORGAN. As it was your duty and your right to do; and you had a right to make the most intimate inquiries in regard to every man who had been at work there, to know whether he had done his duty or not. Did you meet with any accusations against any man of an important character—I am talking about men who controlled the work—as to their delinquency or their want of efficiency in conducting that work?

General HAINS. I do not remember of any.

Senator MORGAN. If such things had occurred they certainly would have impressed your mind?

General HAINS. Yes; I think so.

Senator MORGAN. Because they would have been very serious matters. So that so far as you know or could discern or see there was no dereliction of duty that was visible, if I understand you correctly, and you did not know of any accusations that were brought against that Commission or any member of it that required that they should be removed from the public service?

General HAINS. No, sir.

Senator MORGAN. Were their resignations voluntary or were they required; do you know?

General HAINS. I do not know.

Senator MORGAN. They made no complaint that you heard of about being removed?

General HAINS. No, sir.

Senator MORGAN. And none of them ever evinced any dissatisfaction with the action of the Government in removing them, so far as you know?

General HAINS. No; I do not know of their doing so.

Senator MORGAN. So that so far as you knew or were informed, there was no known cause for the change of the Commission?

General HAINS. No; I did not know of any cause.

Senator MORGAN. You found that that old Commission, the first Commission, had prepared a very ample code of statute laws for the Zone?

General HAINS. I can not say that I know much about the laws that they prepared, Senator.

Senator MORGAN. You have seen the book, have you not?

General HAINS. Yes; I have seen the book, but I have not read the book.

Senator MORGAN. You have not read it?

General HAINS. No, sir.

Senator MORGAN. So you do not know what the laws of the Zone are?

General HAINS. No, sir; I do not know what the laws are. I do not consider that I have anything to do about the government of the Zone on this Commission. I have nothing to do with anything except the engineering matters.

Senator MORGAN. That is, since you have been in there?

General HAINS. Since I have been in there.

Senator MORGAN. And you have not put yourself to the trouble of trying to find out what other departments there had been engaged in doing?

General HAINS. No; not specially; no, sir.

Senator MORGAN. I have read that code of laws, and I am supposed to be a lawyer, and I think it is a very highly commendable body of statute laws, and it must have taken a great deal of work and a great deal of wisdom, too, to have enacted that body of laws for a perfectly new situation. That is the reason why I asked you about the government of the Canal Zone. At the time that this Commission took charge of the property there, the Zone, and before that time, if I understand the situation—and I want to see if you understand it as I do—the civil and criminal laws that governed there were the laws of Colombia?

General HAINS. Yes, sir.

Senator MORGAN. Or the police laws of the State of Panama?

General HAINS. Yes, sir.

Senator MORGAN. And that entire system had to be substituted to meet new conditions?

General HAINS. Yes, sir.

Senator MORGAN. That became the Government of the United States?

General HAINS. Yes, sir.

Senator MORGAN. They adopted some of the old Spanish laws that were remaining there, to get along with them until they could substitute them with laws that were better. It has always occurred to me that that was a very great labor, and it was well performed. Since you have been a Commissioner, in whose charge has the conduct of the railroad been?

General HAINS. The Panama Railroad Company?

Senator MORGAN. Yes; the Panama Railroad Company. You were one of the directors?

General HAINS. Yes, sir.

Senator MORGAN. Did you ever participate in any of the meetings?

General HAINS. Yes, sir.

Senator MORGAN. And took your part of the work of directing the work of that railroad company?

General HAINS. Yes, sir.

Senator MORGAN. Who are the chief men that control it, besides the directors?

General HAINS. The president of the road and the superintendent or chief engineer.

Senator MORGAN. Who was the superintendent?

General HAINS. The chief engineer of the canal, Mr. Wallace; I think he was the superintendent during the time he was there, and Mr. Stevens has been since.

Senator MORGAN. Mr. Shonts has never been? He was president of the road?

General HAINS. Mr. Shonts is president of the road.

Senator MORGAN. They have a president and a general superintendent?

General HAINS. I believe that is his position—general superintendent.

Senator MORGAN. What body of men was it—the Canal Commissioners or the railroad directors—that prescribed the freight rates, for instance, for that railroad?

General HAINS. Oh, that was some officer of the company. I did not have anything to do with that.

Senator MORGAN. If you ever prescribed any freight rates as a Commissioner, you did not know it?

General HAINS. No, sir.

Senator MORGAN. Who had the direction of the purchase of the ships or the acquiring of ships in addition to those that belonged to the railroad under charter parties?

General HAINS. That matter was considered by the board of directors.

Senator MORGAN. Of the railroad?

General HAINS. Yes, sir.

Senator MORGAN. What part or function does that railroad perform in the actual work of carrying this canal into successful operation?

General HAINS. The railroad?

Senator MORGAN. The railroad.

General HAINS. Oh, it is an absolute necessity. It is like any tool for doing a piece of work; you could not do it without it.

Senator MORGAN. Therefore, during the time since the thing has been in operation it was the prime factor in the work?

General HAINS. Yes, sir.

Senator MORGAN. And the direction of the railroad, therefore, was quite as important a matter as the direction of the work on the canal?

General HAINS. Yes; to some extent.

Senator MORGAN. You got all your material from the railroad from abroad—all that was imported?

General HAINS. I had nothing to do with the procuring of material.

Senator MORGAN. No; you had not anything to do with it, but you have a general knowledge of the fact that all the material was imported there through the assistance of the railroad and its ships?

General HAINS. Oh, you mean carried down there?

Senator MORGAN. Carried down there to the place.

General HAINS. Oh, yes; yes.

Senator MORGAN. And of course the transportation—

General HAINS. But, Senator, allow me: I think perhaps that is so as to a large amount of it; but there was quite a good amount also which was taken down there on other vessels, outside of the vessels in the employ of the Government.

Senator MORGAN. A great amount of it, of course; but the railroad was still an indispensable factor in supplying material and men and provisions and everything else to that canal work?

General HAINS. Yes, sir.

Senator MORGAN. Did you ever sit as a Commissioner upon the investigation of a claim brought by the New Panama Canal Company against the United States for a sum somewhat above two millions of dollars?

General HAINS. Did I ever do what about it?

Senator MORGAN. Did you ever, as a Commissioner, sit in judgment or in inquiry upon the examination of such a claim as that?

General HAINS. No, sir.

Senator MORGAN. You have seen the examination on the minutes of your Commission, have you not?

General HAINS. Yes, sir.

Senator MORGAN. You have seen that?

General HAINS. Yes, sir.

Senator MORGAN. Did all that occur before you became a Commissioner?

General HAINS. Yes, sir.

Senator MORGAN. Is it still pending, undecided?

General HAINS. I so understand; I do not know. I suppose it is still pending. Yes, I am quite sure that it is still pending.

Senator MORGAN. That claim is still pending and undecided?

General HAINS. Undecided.

Senator MORGAN. It covers, if I understand it right, work done on the canal between the time that the first offer was made by Monsieur Bo in behalf of that canal company to sell the property and the time of the turning over of the property under the Hay-Varilla treaty. That is the period of time that was covered by this claim, in my understanding. Do you understand it that way—that it is for the work done between those two periods of time upon the canal?

General HAINS. I think the idea is to go back further than that with that claim, Senator.

Senator MORGAN. How far back?

General HAINS. Oh, I think they claim away back until some time when they believed we made our first estimate. That would be some time in 1899.

Senator MORGAN. Yes; I think you are right about that—when they supposed or believed that you had made your first estimate?

General HAINS. Yes, sir.

Senator MORGAN. Which, when summed up, amounted to forty millions of dollars?

General HAINS. Yes; we summed up that it was worth \$40,000,000.

Senator MORGAN. I will just call one item to your attention. That estimate included the removal of the railroad line from one side of the country there to another, did it not? That estimate included compensation to the Panama Canal Company for having transferred the track and removed it from one side of the Chagres River, I will say, to the other?

General HAINS. Oh, I think there is included an item of \$300,000 for a diversion of the railroad.

Senator MORGAN. Yes.

General HAINS. But that is only for a little piece of it—a small piece of it.

Senator MORGAN. I know it is a small piece of it; but it cost a great deal.

General HAINS. Yes; but it was not—

Senator MORGAN. Well, that item was in it?

General HAINS. It was to get the road around Culebra hill.

Senator MORGAN. Yes. Why was that?

General HAINS. The road was located somewhat farther to the eastward before that, and it was removed so as to get around back of the hill and cross near the reservoir that has been built there for the water-supply of the city of Panama.

Senator MORGAN. The point I want to get at is this: That all of that diversion of the railroad had been made before you went down there to make your examination, had it not?

General HAINS. I can not say.

Senator MORGAN. You do not know whether it was before or since?

General HAINS. No, sir; I do not know. No; I do not think it was, Senator. I do not think it was.

Senator MORGAN. It was before any agreement was made or accepted between the United States or any of its agents and the Panama Canal Company for the purchase of the property of the canal company?

General HAINS. I can not say that positively, either.

Senator MORGAN. You do not know?

General HAINS. No; I do not know.

Senator MORGAN. That diversion was not made after the first Walker Commission of construction took possession? It was made before that time, was it not?

General HAINS. Yes, sir.

Senator MORGAN. Now, that was made necessary—I want to get your opinion about that—by the work that was being done by the Frenchmen in building that canal through Culebra Heights?

General HAINS. Yes, sir.

Senator MORGAN. It was a part of the necessity of the work that they were conducting at Culebra Heights that made it necessary to make this diversion of a part of the track around that hill, to put it on the other side of the hill, if I understand it?

General HAINS. Yes; but it would have been the same thing if anybody else was doing the same work, Senator.

Senator MORGAN. But they were doing it for themselves?

General HAINS. At that time I think they were.

Senator MORGAN. They were not doing it under any obligation or promise or suggestion of the United States?

General HAINS. No, sir.

Senator MORGAN. I have always been curious to know why that \$300,000 item was put into that \$40,000,000.

General HAINS. That \$300,000 item was put in there because that diversion we considered as necessary to be made.

Senator MORGAN. And if they had not made it, you would have had it to make?

General HAINS. If they had not made it, we would have had to make it.

Senator MORGAN. It is equally necessary to dig the canal out from Bobio to the seaboard, is it not?

General HAINS. Yes; but if they had done it, I think we ought to have paid them for it.

Senator MORGAN. You think the diversion being put in there to facilitate the work on the Culebra Heights was something that the United States ought to pay for, although it was done before we took possession or had any right to the property at all?

General HAINS. If they are entitled to pay for the work that they did after any specified date that might be agreed on, it seems to me

that they ought to be paid also for that diversion if that was done subsequent to that same date.

Senator MORGAN. Well, they had bought, after the others had built it, the entire railroad line through from shore to shore or the stock in it. Was it necessary, because they had done that work, that the United States should pay them for betterments put upon it?

General HAINS. I do not know about the betterments; but, Senator, we paid them for the Panama Railroad itself.

Senator MORGAN. We paid them for the stock; we bought the stock.

General HAINS. We bought the stock, but we did not care anything about the stock itself. What we wanted was the railroad.

Senator MORGAN. But you could not get the railroad without the stock.

General HAINS. That is very true.

Senator MORGAN. Yes. Now, in buying up the stock and paying them in full what they asked for it, whatever it was (\$8,000,000 or \$10,000,000 or \$18,000,000, whatever it might have been), we paid for all that; we paid for all the betterments and all the improvements and everything else that had been done there when we bought the stock. That being so, after buying the stock and paying for it, can you exactly see light through the proposition that we ought also to pay for the betterments they put there in transferring this road from one place to another?

General HAINS. If the French company's proposition had been accepted before that diversion had taken place the whole cost of this would have fallen on the United States.

Senator MORGAN. But it was not. That is exactly what did not happen, and after that we bought the entire property by buying the stock.

General HAINS. I am of the opinion, although I can not state positively about it, that this diversion of the railroad was being made at this very time, Senator—at the time that we made this estimate.

Senator MORGAN. It was being made at that time?

General HAINS. Yes; I think it was then being made.

Senator MORGAN. It was made for their own convenience, was it not?

General HAINS. Well, yes.

Senator MORGAN. It was made in their effort to work out the canal plan that they were bound to make good to Colombia?

General HAINS. Yes; it was being made for them.

Senator MORGAN. They had a contract with Colombia for the construction of that canal? That is to say, they had a concession?

General HAINS. Yes.

Senator MORGAN. And Colombia had a very great interest in it. At the end of ninety-nine years it was all to go to Colombia, every bit of it, was it not?

General HAINS. Yes.

Senator MORGAN. And of course they were doing it in order to facilitate their own work in holding on to their concession. Now, General, was not the work that they were doing there at the time that you saw them at work during these thirty days that you spent on the Isthmus palpably work that was being done in a perfunctory way in order to hold on to their concessions from Colombia?

General HAINS. I could only express an opinion on that point.

Senator MORGAN. That is exactly what I want.

General HAINS. Well, it looked that way.

Senator MORGAN. Yes; it did not look any other way, did it?

General HAINS. I think my answer is about all I can say about it. It looked as though it was being done in a perfunctory way for the purpose of keeping alive the concession.

Senator MORGAN. You had no doubt about what they were doing there and that that was exactly what they were doing—they were working to keep the concession alive?

General HAINS. I guess that was it. I do not know positively, Senator; but it looked that way.

Senator MORGAN. At the rate of work that they were doing at the time you first saw that work there, when you went down with the Commission, how long would it have taken them to have completed a lock canal?

General HAINS. At that rate of work?

Senator MORGAN. Yes.

General HAINS. Oh, I think they could have finished it in the course of fifty or seventy-five years.

Senator MORGAN. Yes, I expect they would; but the concessions would have been dead forty-five or fifty years before they got through it, and Colombia would have had it all. That was the situation they were in.

Now, while they were doing this work on Culebra Heights they were permitting the prism of the canal that they had dredged out to fill up, without taking any care of it at all? Was not that the situation?

General HAINS. I think that is correct.

Senator MORGAN. That was correct between Bohio and Colon, and it was also correct between Miraflores and Boca Rio Grande?

General HAINS. Yes; yes.

Senator MORGAN. I do not think I have any more questions to ask the witness.

Senator TALIAFERRO. General Hains, you have spoken several times in your examination about an estimate. Do you understand that that property was bought on an estimate of its value, or for a round sum?

General HAINS. Do you mean the Panama Canal?

Senator TALIAFERRO. Yes.

General HAINS. All I know is this, Senator: We undertook to determine the value of that property of the canal company, and we thought it was worth fully forty millions of dollars, based on the estimated quantities of work done that would be of value in the plan of the canal that we were going to recommend, and other things in connection with it; we thought it would be worth fully forty millions of dollars.

Senator TALIAFERRO. Was that estimate or not solely and entirely for the information of the Commission and of this Government?

General HAINS. It was entirely for the information of this Government.

Senator TALIAFERRO. So that our purchase of that property for forty millions of dollars was without any obligation whatever on our part to pay any more than \$40,000,000 for it?

General HAINS. Yes, sir. Now, let me say one thing there, Senator. We estimated the value of the canal property at \$40,000,000. The French company, when they made a proposition (it was a long time

before we could get them to do it) when they did make a proposition, they wanted \$109,000,000.

Senator MORGAN. One hundred and nine millions?

General HAINS. Yes, sir.

Senator MORGAN. Yes, that is my recollection.

General HAINS. Then, afterwards, after the bill for the construction of the canal, I think it was on the Nicaragua route, had passed the House of Representatives, they made this offer—"Here, take this canal at your own figure."

Senator MORGAN. That was the first Hepburn bill, was it not?

General HAINS. I believe it was the first Hepburn bill.

Senator TALIAFERRO. They offered what?

General HAINS. They offered then to the United States everything they had for just what we valued it at.

Senator MORGAN. Forty millions of dollars?

General HAINS. Forty millions of dollars. Now, that came as a proposition from the French company.

Senator TALIAFERRO. Let me ask you right there, General—if you know about it—did they not remove Monsieur Hutin, who was the director-general of that canal company, from office, and put Monsieur Bô in for the express purpose of making that drop?

General HAINS. That I can not say, Senator.

Senator TALIAFERRO. Did the French company offer to sell that property to this Government at what your Commission estimated it to be worth, or did they offer to sell it at \$40,000,000?

General HAINS. I think the thing was put something like this: "Take the canal and everything we have there for your own valuation. You estimated it was worth forty millions. Take it at forty millions." That is the way I understood it.

Senator TALIAFERRO. So that, whatever the circumstances may have been, the French company understood that they were to receive forty millions of dollars for that property—no more, no less?

General HAINS. That is the way I understood it.

Senator TALIAFERRO. So that there is no obligation on the part of this Government to pay anything in excess of the forty millions that have been paid?

General HAINS. I do not think there is any obligation other than that, perhaps, of an equitable amount for work they did subsequent to the time that we accepted their proposition.

Senator MORGAN. If you will allow me, if there is any such equitable sum, is it not set off by another equitable allowance in favor of the United States for filling up that they permitted to go on there—the dilapidation of their property?

General HAINS. Not the dilapidation of the property, Senator, in that sense—the dilapidation of the property—you might say the filling up of the canal, though I do not think there was much more of that; but so far as the property was concerned (I am speaking now of the movable property—the plant) we did not attach any value to it at all in our forty millions. When we made the estimate of forty millions of dollars we did not consider that there was a locomotive or anything there that was worth anything.

Senator TALIAFERRO. What work have they done since their offer to sell that property to us was accepted by this Government?

General HAINS. There comes up a question of law that I am not capable of dealing with. Their offer was accepted, I understand, on the 3d of March, 1903, subject, however, to the ratification of a treaty between the United States and Colombia to enable the United States to step in and take possession.

Senator TALIAFERRO. And the United States took possession just as soon as satisfactory treaty arrangements were made?

General HAINS. Yes, sir.

Senator TALIAFERRO. Where have they any claim on that score, if it was subject to the ratification of this satisfactory treaty? You say the purchase was made subject to the ratification of a satisfactory treaty.

General HAINS. It seems to me it is a question of equity altogether. The French company, after they had made their proposition to us, gave us a certain time in which to accept it. I think it was an option that would expire on the 3d of March, 1903.

Senator KITTREDGE. Was not that option extended?

General HAINS. I do not know. I did not have anything to do with the canal after that, so that I do not know much about it; but as I understand it, I think the Attorney-General accepted the proposition on the 3d of March, subject to these conditions.

Senator TALIAFERRO. Subject to satisfactory treaty arrangements?

General HAINS. Yes, sir.

Senator MORGAN. I had a document printed yesterday and referred to this committee that I got from the Attorney-General, setting forth all of the propositions and all of the agreements; so we have the official status upon that question.

Senator TALIAFERRO. In negotiating the purchase of that property, through whom were the negotiations conducted on the part of the French company? Who represented the French company in the negotiations?

General HAINS. I do not know that I can answer that question from my own knowledge. During a part of the time I know that Mr. Hutin, the director, was in negotiation either with the Commission or with the chairman of the Commission; and subsequently he was removed, or subsequently Mr. Bo was made director, and I think the matter was consummated by Mr. Bo, assisted by Mr. Lampré. Mr. Lampré, the secretary of the company, was in Washington a part of the time when these negotiations were going on; but I had very little to do with it at the time. In fact, I did not have anything to do with it, and I only know that these things were going on as a matter of common knowledge to anybody that might be around the Commission's office. I was not getting any pay as a member of the Commission at that time.

Senator TALIAFERRO. You are a member of the Commission now?

General HAINS. Yes, sir; I am now.

Senator TALIAFERRO. And you say this claim for something over two millions of dollars, this claim of the French company for additional compensation, is now pending in the Commission?

General HAINS. I do not understand that it is pending in the Commission; no, sir.

Senator TALIAFERRO. Has it not been presented to the Commission?

General HAINS. It was presented to the Commission, and the Commission acted on it about a year and a half ago.

Senator TALIAFERRO. What action did the Commission take?

General HAINS. I think the action of the Commission was adverse; but they have not given up all idea of working the claim through, notwithstanding.

Senator TALIAFERRO. Did you coincide with the decision of the Commission?

General HAINS. I never went into that subject, Senator.

Senator TALIAFERRO. You were not on the Commission at that time?

General HAINS. No, sir; I was not on the Commission at that time, and I do not know enough about it to justify me in expressing an opinion. I would rather not express an opinion.

Senator TALIAFERRO. Has the claim been presented to the present Commission?

General HAINS. To this existing Commission?

Senator TALIAFERRO. Yes.

General HAINS. No, sir; not that I know of. I think it is now a matter of arbitration in some way.

Senator TALIAFERRO. In what way?

General HAINS. I do not know.

Senator TALIAFERRO. Who is to arbitrate it?

General HAINS. I think they have asked the President to do so.

Senator TALIAFERRO. Through whom?

General HAINS. I was called before the Assistant Attorney-General a few days ago to give my testimony, or to give my recollection of how those estimates were made up, and that was with a view to its effect on this claim. I understood that they had agreed to let it be determined by the President whether they are entitled to anything or not, just as a matter of equity. Of course that would not give them the money.

Senator TALIAFERRO. When you say "they" have, you understand, agreed to leave it to the President, who do you mean?

General HAINS. I mean the representatives of the canal company.

Senator TALIAFERRO. The French company?

General HAINS. Yes, sir.

Senator TALIAFERRO. Who are they?

General HAINS. Cromwell & Sullivan, I think, is the name of the firm.

Senator TALIAFERRO. You say you were called before the Assistant Attorney-General recently in connection with this case?

General HAINS. Yes, sir.

Senator TALIAFERRO. What was his name?

General HAINS. Charles H. Russell, I think his name is; Mr. Russell.

Senator MORGAN. Was it Mr. Russell you appeared before to give your statement?

General HAINS. Mr. Russell and Mr. Hill. Mr. Russell represented the United States. Mr. Hill, I understand, represented the canal company in the capacity of a member of the firm of Cromwell & Sullivan.

Senator MORGAN. That was just a few days ago?

General HAINS. Yes, sir.

Senator MORGAN. So the matter is pending yet?

General HAINS. That is the reason, I suppose, it is pending.

Senator MORGAN. Of course, they would not have asked you unless there had been some matter pending.

Senator TALIAFERRO. You gave your statement, General Hains, I understood you to say?

General HAINS. Yes, sir.

Senator TALIAFERRO. Was the question of this option given to the United States in connection with the purchase of that property discussed in your investigation?

General HAINS. In what?

Senator TALIAFERRO. In your investigation by the Attorney-General?

General HAINS. I do not know that I exactly understand your question, Senator?

Senator TALIAFERRO. The French company gave this Government an option for the purchase of that property?

General HAINS. Yes, sir.

Senator TALIAFERRO. I say, was the question of that option discussed in your examination by the Attorney-General?

General HAINS. I do not think the question of that option was discussed, exactly. It was more a question of the time our estimate was made, and how we came to make it forty millions of dollars. That is what it was about—the time when we made it, and how we made it, what we based it on.

Senator TALIAFERRO. You are quite clear that your Commission fixed this price of forty millions, instead of the French company?

General HAINS. Oh, it is in our report; we fixed it at forty millions of dollars. I can show you where it is in our report.

Senator MORGAN. Perhaps I can refresh your memory about that.

Senator TALIAFERRO. I would like to have you read it. Just read it, General.

General HAINS. This is the report of the Commission of 1899–1901 [reading]:

“The quantities given in the foregoing estimate are based upon the present condition on the Isthmus, utilizing the excavations already made where they are useful. The new company has excavated about 5,000,000 cubic yards”——

That is, altogether; it is what the new company had done in several years [reading]:

“Which, added to the 72,000,000 cubic yards excavated prior to its organization, make a total of 77,000,000 cubic yards excavated by the two companies. Much of it is of no value because of the various changes of plan. For example, sites for locks have been excavated and then abandoned; the spoil banks on the Atlantic maritime section frequently come within the limits of the canal prism now projected, and must be rehandled. The amount of work done which will be of value under the plan recommended by the Commission has been carefully computed for the main canal line, and is found to be 36,689,965 cubic yards.

“The amount of excavation which can be utilized in the Chagres diversion is 210,873 cubic yards, and in the Gatun diversion 2,685,494 cubic yards. Adding these together, the total quantity of excavation which will be of value in the new plan is 39,586,332 cubic yards. A temporary diversion of the Panama Railroad has been made at the Culebra Cut, which also must be considered. Using the same classification of materials and the same unit prices as in the other estimates,

with the 20 per cent added for contingencies, the value of the work done is found to be:

Canal excavation.....	\$21,020,386
Chagres diversion	178,186
Gatun diversion	1,396,456
Railroad diversion (4 miles)	300,000
	<hr/>
	22,895,028
Contingencies, 20 per cent.....	4,579,005.

Senator MORGAN. That was just added to the price?

General HAINS. We explain that after awhile, Senator; it comes in later.

Senator MORGAN. All right.

General HAINS. Making an aggregate of \$27,474,033 [reading].

"There is on hand an immense amount of plant, consisting of locomotives, excavators, dredges, cars, rails, and machines, implements, tools, spare parts, and supplies of various kinds, besides buildings used for offices, quarters, storehouses, hospitals, and miscellaneous purposes, and some 30,000 acres of land. The inventory furnished to the Commission includes many thousands of items, classified as follows:"

Then comes in lands, buildings, and so on.

Senator TALIAFERRO. Yes; you need not read that.

General HAINS (reading): "As a general rule, this property shows signs of attention, and the evidence seems satisfactory that it has been well cared for since the liquidator took charge of it in 1889. It would manifestly be imprudent, however, to fix a value upon any important machine which has been idle that length of time without first actually testing it at work, however neatly painted and sheltered it may now be. Much of the property is ill adapted to American methods, and all of it is now from thirteen to twenty years old, during which period the improvements in this class of machinery have been such that contractors would generally find it to their advantage to buy entirely new machinery of modern pattern rather than attempt to use this of an older class, even if given to them free and in good order.

"The locomotives, rails, and cars may be of some service, but their value is doubtful; the locomotives are much lighter than is desirable for economical service, the rails are of a pattern ill fitted to rough use, and the cars have narrow-tread wheels. The cars are probably the best part of the whole outfit. It has seemed to the Commission that in acquiring the Panama Canal the United States should not buy this plant as a whole, and that no special allowance should be made for it in estimating the total value of the property. Its owners may realize something by the sale of portions of it to contractors if the latter find that they can use it to advantage. This valuation is all that the Commission can put upon the plant; it has already appeared in the estimates, since the unit prices have been fixed upon the condition that contractors furnish their own plant."

Now, there is a paragraph about the value of buildings and another one about the value of concessions and lands. Shall I read them?

Senator TALIAFERRO. You need not read those. Just go to your summing up.

General HAINS. The summing up is:

"The existence of the Panama Railroad is, however, a very important factor, as it supplies a service railroad for the entire length of the

canal. On the basis of \$75,000 a mile, this railroad would be worth \$3,500,000, which is half the face value of its capital stock. In view of its good condition and its valuable termini, it should not be estimated for purposes of canal construction at less than \$6,850,000, the par value of the 68,500 shares of its stock held by the canal company. The exceptional gage—5 feet—somewhat reduces its value, as it adds to the cost of rolling stock. The maps, drawings, and records are unusually complete and their value is great, though not capable of accurate estimate. In the judgment of the Commission a fair allowance for these would be \$2,000,000.

"Summing up the foregoing items, the total value of the property is found to be:

Excavation already done	\$27,474,033
Panama Railroad stock at par.....	6,850,000
Maps, drawings, and records.....	2,000,000
Total.....	36,324,033

"To which add 10 per cent to cover omissions, making the total valuation of the Panama Canal \$40,000,000."

Senator MORGAN. That 10 per cent has been added in before on the digging.

General HAINS. Oh, that 10 per cent for the digging, Senator, is correct; but this last part was not for digging.

Senator MORGAN. That has been added in before, and it is put in again?

General HAINS. Oh, no; no, sir.

Senator MORGAN. That is the way I understand it.

General HAINS. Oh, no; you are wrong there.

Senator MORGAN. Here is so much digging done on these various items that you have mentioned, so many cubic yards ascertained that are useful to the United States?

General HAINS. Yes, sir.

Senator MORGAN. And that is summed up at a certain sum of money as being the then present value of it. Why do you add 20 per cent to that?

General HAINS. We undertook to estimate the cost of excavation there at certain unit prices. There was a certain amount for dredging, a certain amount for dry excavation, a certain amount for rock under water (\$4.75 for the latter), and all that sort of thing. Then, after that, we added 20 per cent for contingencies. In order to make the estimate——

Senator MORGAN. But there were not any contingencies about work that had already been done.

General HAINS. Yes; but, then, there were all kinds of things that were covered in that. We were taking it on the basis of our own estimates, and in all our estimates for computing the cost we always added 20 per cent for contingencies.

Senator MORGAN. How about the contingencies put on the two millions of dollars with reference to maps? They were already completed.

General HAINS. Yes; but we state in there that they are not susceptible of accurate estimate. I think they were very cheap.

Senator MORGAN. Really, then, the 20 per cent estimate for contingencies was put on in order to make a liberal allowance?

General HAINS. I do not think it was for that, Senator. That estimate was made up, and it was found that it amounted to very nearly forty millions of dollars. It is not exactly forty millions of dollars; you put 10 per cent in and it will not make forty millions of dollars.

Senator MORGAN. I know there is a gap to be filled in, and I do not know how it ever was filled.

General HAINS. But we made it pretty nearly forty millions of dollars, and we simply said, "Well, we will call it forty millions of dollars."

Senator MORGAN. Yes.

General HAINS. And we were satisfied that that was a very low estimate. I am satisfied that it was a very, exceedingly low estimate.

Senator TALIAFERRO. That report was made in 1901.

General HAINS. Yes, sir; I think in November, 1901.

Senator TALIAFERRO. If your idea is that that property was purchased with some reference to your estimate as to its value, why has there not been added to the price the outlay by the French company since this report was made, since 1901?

General HAINS. I think that is the question that is up—that is what constitutes the claim.

Senator TALIAFERRO. Covering that time from 1901?

General HAINS. Well, I do not know; I think they go back a little further than that. They want to claim back as far as 1899, when we made our estimate. They want to get back to the date when we made the estimate from certain cross sections that they gave us.

Senator MORGAN. Going back to 1899 was probably due to the zeal of the counsel representing the claim and wanting to make it as large as possible; and representing the United States at the same time, they had the thing pretty much in their own hands, or they thought they had.

Now I want to call your attention to the fact that when Mr. Bo cabled to the French embassy here and told them to accept the estimate of the United States, as stated in the report of the Commission upon the pages which you have just now read, they made the proposition to accept the estimate as made on those pages of that report. You remember that, do you not?

General HAINS. I do not remember, Senator; no.

Senator MORGAN. I have the record of it here to show that from the Attorney-General.

General HAINS. That settles it better than I could remember it.

Senator MORGAN. So that question is all settled by the record. Has Mr. Cromwell ever talked this subject over with you?

General HAINS. I do not think I ever had any conversation at all with Mr. Cromwell about it.

Senator KITTREDGE. Did you with Mr. Hill?

General HAINS. I did, a few days ago. He came and asked me about it and asked me if I would go up before the Assistant Attorney-General and allow them to ask me some questions about it, and that is what I did.

Senator KITTREDGE. Did you talk with him regarding the statement that you should make?

General HAINS. I did not go up with him, but I went up there and met him there and met Mr. Russell there.

(By request of Senator Kittredge, his question was read aloud by the stenographer, as follows:)

"Did you talk with him regarding the statement that you should make?"

General HAINS. He asked me what my memory was about it, and I told him what I remembered about it, and he seemed very much disappointed that my memory did not—

Senator MORGAN. General, have you ever found out, or do you know, how that gap was filled up between the forty millions of dollars and the smaller sum that was added up as the calculation of the value of what we were getting from the Panama Canal Company?

General HAINS. That estimate, Senator, was gotten up by the Panama committee. The Commission consisted of nine members; and that committee, which had special care of the study of all matters pertaining to the Panama route, consisted of three members—General Ernst, Professor Burr, and Mr. Morison. That estimate was gotten up by them and submitted to the full Commission for its action; and after going over it and talking about it we accepted those figures.

Senator MORGAN. So they just moved the figures up from the actual estimate as it summed up in figures to forty millions of dollars as an act of grace?

General HAINS. Well, I think, Senator, that if we had taken it that way we should have started with some higher figure than forty millions.

Senator MORGAN. I just wanted to know how they ever arrived at the round sum of forty millions of dollars when the calculations were less.

General HAINS. Well, you see by the figures there that they do not come out an even forty millions of dollars, but we just put down the lump sum.

Senator MORGAN. That is it?

General HAINS. We just took a lump sum.

Senator MORGAN. But in excess of the actual estimates that you had made, allowing 20 per cent for contingencies?

General HAINS. I really do not know, now, whether it is in excess or the other way.

Senator MORGAN. The figures show that it is.

General HAINS. It is not much either way.

Senator MORGAN. It is about a million of dollars—nearly a million.

Senator TALIAFERRO. General, were you a member of the Commission in 1902?

General HAINS. I was a member of the Commission, yes; on furlough without pay. The President, I might say, kept the entire Commission in existence for the purpose of calling it together in case anything should occur and he wanted to get the Commission together, you know, for any purpose; so that really the Commission of 1899 was not dissolved until March, 1903. But we had all been put on furlough without pay.

Senator TALIAFERRO. Do you know anything about the chairman of the Commission, Admiral Walker, at that time receiving such a telegram as this:

"The New Panama Canal Company declares that it is ready to accept for the whole, without exception, of its property and rights on the Isthmus the amount of \$40,000,000, the above offer holding good until March 4, 1903?"

General HAINS. I knew about that at the time; yes.

Senator TALIAFERRO. Would that not, in your judgment, absolutely cut off all demands on this Government for extra work or excess of work prior to that date?

General HAINS. I should think it would prior to that date, yes; but subsequent to that date was what I was referring to as what, it seemed to me, they might in equity have a just claim for.

Senator TALIAFERRO. Construing, now, that cablegram in the nature of an option, if that were extended beyond the 4th of March, 1903, by the French company, the period of extension would also be excluded in any demand for extra pay, would it not?

General HAINS. Yes, sir.

Senator TALIAFERRO. That is all I want to ask.

Senator ANKENY. In your estimate, what did you allow them, a yard, for this earth or material that went out of the Culebra cut?

General HAINS. Different prices.

Senator ANKENY. It was a fixed price per yard?

General HAINS. No, sir; there were several prices.

Senator ANKENY. But the basis of your calculation was so much a yard?

General HAINS. That was the basis of it.

Senator ANKENY. Then you allowed them, say, for 33,000,000 cubic yards, or some given sum?

General HAINS. Yes, sir.

Senator ANKENY. On the basis that you would use that much? That that was the basis of your whole offer, that that much was useful to this Government or to your Commission?

General HAINS. Yes, sir; to this Government.

Senator ANKENY. Now, suppose by some operation we use some more of their work; have they a claim for the difference in that?

General HAINS. No, sir; I do not understand so.

Senator ANKENY. In their bill you included so much, and you shut out the rest, because you did not need it, because you did not use it?

General HAINS. Yes, sir.

Senator ANKENY. If it was established that you did use it, do you think they would have any claim to it?

General HAINS. I do not think so. I am not a lawyer. I think you could tell that better than I.

Senator ANKENY. I am not a lawyer.

General HAINS. As a matter of law I do not think you could. As a matter of justice they might, under some circumstances.

Senator ANKENY. There is such a claim made, and that is the reason I speak of that. You remember, Senator Morgan, that there was a claim made, for instance, that allowed them for 33,000,000 cubic feet, or something, and that was all that was useful to us, and the rest was of no account. If we use more of that, what is our position in the matter?

Senator MORGAN. I was thinking of that in connection with the Gatun diversion. We throw that away, in the plan that is proposed by the minority of the committee.

General HAINS. You adopt a lock canal and you do not want it.

Senator MORGAN. We have paid for it and then throw it away.

Senator ANKENY. You do not understand that there is any claim against us for it?

General HAINS. No, sir; I do not understand that there would be any claim. I do not think they are making any.

Senator ANKENY. Not even in the Gatun matter?

General HAINS. No, sir.

The CHAIRMAN. General, I believe we are through with you, then, and we are very much obliged to you, sir.

(Thereupon the committee went into executive session; after which it adjourned until Thursday, March 29, 1906, at 10.30 o'clock a. m.).

The following communication is, by direction of the committee, printed as a part of the record:

2013 KALORAMA AVENUE NW.,
Washington, D. C., March 26, 1906.

Hon. JOSEPH H. MILLARD,

*Chairman Committee on Interoceanic Canals,
United States Senate, Washington, D. C.*

SIR: In accordance with your request, I have the honor to submit the following views respecting the Panama Canal, now under consideration by your committee:

RELATIVE MERITS OF SEA-LEVEL AND LOCK PROJECTS.

The most important consideration from an engineering point of view in projecting a transit route, whether a railroad or a canal, is to adjust the details to the topography and natural conditions of the region to be traversed. On the Isthmus the Chagres River is the dominating feature. The canal and river must be near neighbors for about three-quarters of the entire distance, and the real problem is to so plan the former as to make it harmonize with the characteristics of the latter in the most perfect manner possible. The deep excavation in the Culebra section is a formidable undertaking, chiefly because it will be necessary to transport the spoil to long distances; but once executed, it will remain without giving occasion for anxiety in the future. The Chagres is capable of becoming a very active enemy at any future time unless effectively tamed by good engineering methods. It is not without interest to consider the character of this stream, which, under the influence of the tropical rainfall, differs radically from any in the United States.

During the three dry months of February, March, and April it is a small, peaceable river, about 200 or 300 feet wide, and carrying a volume of about 1,400 cubic feet per second at Bohio. The bed at Alhajuela, 58 miles from the sea by the course of the stream, is 92 feet above tide; at Gamboa these figures are 47 miles and 46 feet, and at Bohio 27 miles and zero feet. The rainfall in January and May is somewhat variable, and affects the flow accordingly. The other seven months are subject to tropical downpours aggregating about 12 or 13 inches monthly, and giving rise in the river to violent freshets, ranging in number, during the twenty-one years of which we have records, from none to thirteen per month. They often carry from 30,000 to 40,000 cubic feet per second, with oscillations of 20 to 30 feet, but they rarely continue more than twenty-four hours. The great floods are caused by long-continued storms, and fortunately are rare; only six have occurred since accurate records were inaugurated. The largest, that of 1879, had a rise of about 37 feet at Gamboa and 40 feet at Bohio, carrying,

respectively, 80,000 and 113,000 cubic feet per second. The most rapid rates of rise of which we have records occurred in the flood of 1890. They were 25 feet in seventeen hours at Gamboa and 19 feet in thirty-one hours at Bohio.

It remains to consider how so peculiar a river is dealt with in the sea-level and lock projects for the canal.

By the former an immense dam is projected at Gamboa by which the entire volumes of floods and freshets above that point are to be arrested and discharged gradually by sluices into the canal at a maximum rate of about 15,000 cubic feet per second, thence to flow to the sea in its channel. It is to be noted that this plan affords only a partial regulation, for long-continued and careful measurements demonstrate that in great floods only two-thirds of the volume that passes Bohio comes from above Gamboa, leaving still to be dealt with about 35,000 cubic feet per second delivered by the lower tributaries (enough to raise the Chagres 23 feet at Bohio). This it is proposed to do in part by forming two large permanent lakes on the west side of the Chagres, involving three dams, each rising about 75 feet above the ground and aggregating an estimated length of 4,110 feet, to say nothing of another dam 535 feet long and 25 feet above ground to close a low place in the bounding hills.

These two lakes are to be relieved of their surplus volume by cuts near the sources of the present streams, conducting the flow of the larger to the Trinidad River, by the channel of which it will return to join that of the latter and plague the canal levees near the Agua Clara marsh. But these dams regulate only three of the larger tributaries below Gamboa, leaving fifteen considerable streams and numerous drainage channels of the rainy season now discharging into the river to be led down into the sea-level canal from heights ranging between 20 and 40 feet above its surface. These water courses carry considerable sediment, and no adequate provisions for excluding it are contained in the estimates. The maximum current velocity thus generated in the canal is estimated by the majority at 2.64 miles per hour (about 4 feet per second).

The lock project is free from all these complications. By it the summit level, 85 feet above tide, extends from Gatun to Pedro Miguel in the form of a great lake which floods the valley to about 5 miles above Gamboa, and absorbs all the tributaries of the Chagres at such distances from the transit route as to effectively dispose of their currents and the sediment carried by their waters. The four regulating dams proposed by the sea-level plan are eliminated, being replaced by a dam and three locks at Gatun. Naturally these works have formed the point of attack by advocates of the sea-level plan, because the problem of how to regulate the Chagres is thus solved in a manner at once vastly better and vastly more simple than by their own. The startling criticisms raised against the lock sites have been shown to be groundless by cablegrams from Mr. Stevens just received. He has made a new personal examination, and pronounces the conditions as ideal for construction and permanency. The question of the dam, already discussed before your committee, will be briefly considered below.

It remains to compare the two plans for the canal in respect to the facilities which they offer for the transit of the Isthmus by the class of vessels contemplated by the law of Congress, namely, those "of the

largest tonnage and the greatest draft now in use, and such as may be reasonably anticipated."

The sea-level plan affords, for about 40 miles, a channel with a width at bottom only ranging between 150 and 200 feet, each of these widths covering about 20 miles, and having a uniform depth of 40 feet. Between Bohio and Miraflores, a distance of about 25 miles, the water surface of the canal is dominated by high banks which for about 8 miles rise considerably over a hundred feet, the maximum height exceeding 200 feet. Of the entire 49 miles between deep water in the oceans, 19 follow curves, gentle it is true, but not without difficulty for modern leviathans, especially at passings. Moreover, by being made the channel to carry the flow of the regulated Chagres such a route does not present the advantage of still water usually attributed to canals; in truth, it is a river, which is far inferior to quiet water for vessels whose length ranges from three to four times the available width between banks. The small depth of water under the keels of the larger class of shipping would greatly increase the difficulties of steering when the current, as at bends, acts unequally on the two sides.

The route for shipping afforded by the lock-canal project is next to be considered. From Gatun to Tavernilla, a distance of about 15 miles, and from near Miraflores to La Boca, a distance of about 4 miles, that is for a total distance of about 19 miles (one-third of the whole distance between oceans) ships will pass freely through a deep channel 1,000 feet or more wide and leaving nothing to be desired. The rest of the distance except about 5 miles at the Culebra Cut affords a channel ranging from three to five hundred feet in width, never less than 45 feet deep, and far superior in every point of view to that of the sea-level plan. This is true even at the Culebra Cut, for although the width is limited to the same figure (200 feet) the depth is made 45 feet, which will immensely facilitate the passage of great ships.

Except for about 4 miles north of Obispo there will never be objectionable currents in any part of the route, and even there they will disappear when the time comes to construct the Alhajuela dam to meet the lockage requirements of a distant future. Neither will sedimentary deposits trouble any part of the channel to be traversed by shipping. As to curvature, 30 of the 49 miles follow straight lines, and the great width of channel way will prevent any obstruction. The only drawback to these immense advantages is the necessity of passing the locks, and experience at the St. Marys Falls Canal sufficiently demonstrates how little this really ought to weigh in the comparison. It is safe to assert that if the decision as to which route is the superior could be left to a jury of practical navigators the result would not be doubtful.

It is well to recall that since the De Lesseps fiasco the question of sea-level or lock canal has been brought before three foreign and one American engineer commissions, aggregating 39 members, to whom should be added Mr. Choron, the eminent chief engineer of the French company. The decision without a single dissenting voice was in favor of a lock canal. This type alone furnishes a satisfactory solution to the problem of regulating the Chagres River, unless we are prepared to incur the expense of untold millions in opening a "strait" across the Isthmus.

In my judgement the primary consideration in choosing between the two projects should be their relative merits as routes for shipping. The elements of time and cost are secondary, but too important to be neglected. As a practical question, the estimates of both the majority and the minority were confined to engineering quantities and unit prices, but in a great public work covering so long a period it is well to consider unforeseen contingencies, such as failure of contractors, strikes among the laborers, possible epidemics, to say nothing of financial crises that may interfere with the annual appropriations of Congress, and even of a foreign war. In my opinion it is prudent to allow double the cost and double the time for the completion of the sea-level project, and, what is more important still, that when it is completed it will be distinctly inferior to a canal with locks. But to defer the completion to a period of say twenty years would be to tax the present generation for the cost of construction, and at the same time to deprive it of the enjoyment of any of the expected advantages. Such a proposition would hardly be agreeable to the tax payers.

THE DAM AT GATUN.

This question has been discussed at length before the committee, and only one further point suggests itself—the restricted area occupied by the material filling the two gorges in the indurated clay. This is insignificant in respect to the remaining imperviable foundations of the dam, and if, what is highly improbable, future investigations should indicate that a moderate loss of water may occur it will be easy to control it by well-known engineering methods. The only really permeable material is restricted to the bottom of the western gorge, below the level of about 200 feet. The entire area of its cross section, only about 500 feet wide at top, is about 17,000 square feet; and it can readily be made impervious by pumping down cement. The entire area of cross section across both gorges being about 370,000 square feet, with a length at top of about 2,650 feet, the latter may readily be closed to a depth of 50 feet by modern sheet piling. These two simple operations would make absolutely impervious about 150,000 of the total 370,000 square feet, and by similar methods the whole area might be closed if deemed desirable. The entire question thus resolves itself into an engineering detail to be considered when the time comes to build the dam.

One advantage possessed by the Gatun site is worthy of attention. The whole region of the Chagres basin lying below Bohio is but little elevated above the sea; and this fact greatly reduces the height needful to raise the dam in order to submerge a wide area and thus obtain a large volume of water. The moderate height of 85 feet above tide suffices, while farther upstream the needful heights for reserving immensely smaller volumes are much greater. At Gamboa the height above ground is 130 feet, and even for the three dams on the west bank of the Chagres it is 75 feet. Nature thus simplifies the problem for the lock canal.

Another point may be mentioned. From lack of time no borings or surveys were possible at these latter three dam sites, and what they would have revealed is unknown. The estimates for them are scarcely better than an "engineering guess." Three months were too short a time for such studies.

OPEN GATES AT TIDAL LOCKS.

It has been urged before the committee that the tidal lock of the sea-level project is far less objectionable than an ordinary lock, because the gates may be left open for long periods when the tidal height does not differ materially from that in the canal. Actual experience at Kiel does not warrant this expectation. I visited Kiel shortly after the canal was opened, and was informed by the officers in charge that this expectation was entertained there. Locks had been deemed necessary because oscillations due to heavy gales reached extremes of plus 9.6 and minus 7.6 feet, or a total of 17.2 feet, but as ordinary tidal changes did not exceed a foot or two the gates would remain open most of the time.

I recently learned from Mr. Tincauzer, one of the members of our board, that such had not been the result of experience. The original intention of the canal authorities was to leave the gates open for three hundred and thirty days in the year, but they are forced to keep them closed almost all the time to avoid the moderate currents which have been found to be very dangerous for ships traversing the narrow space between the lock walls. This width is 82 feet, only 18 feet less than is projected for much larger ships at Panama. This fact proves that there is no material difference between tidal and other locks considered as obstructions to passage.

SIZE OF LOCKS.

The fact has been mentioned before the committee that the 1,000 by 100 foot size of lock was adopted by the full board by a vote of 11 to 2. As I happened to make the motion myself, you will pardon me if I give the reason. The discussion came up a little prematurely, because the lock committee were then engaged on the computations for determining the question of water supply of the canal in the dry season and had not reached conclusions. The drift of the discussion indicated plainly that the larger size would be adopted. This I considered larger than necessary, but I offered the motion in order to make it include the provision that intermediate gates should be inserted to reduce lockage volumes for small vessels. On my part it was simply a compromise, as I favored the smaller size.

LOCKAGE TIMES.

This question has been fully elaborated before the committee on theoretical grounds, amply justified by observations, but as I traversed the four upper locks of the Manchester Canal on one of the largest steamers that navigate it, specially to study this class of questions, the actual times noted may be interesting. The lift of the four locks was each about 16 feet, and the times noted at them hardly differed. The average indicated:

	Minutes.
To open gates	14
To close gates	14
To enter and tie	3
To loose and leave	3
Lift of 16 feet	7
Loss at lock	16

Add for loss in reducing speed when approaching the lock, and for regaining it again after leaving, nine minutes, making a total loss of twenty-five minutes for passing a lock. These figures tend to confirm the estimates of the minority as being ample and liberal.

ATTEMPTS TO INTERRUPT TRANSITS.

Fanciful speculations have been advanced tending to suggest dangers of this malicious character, but they seem to be wholly uncalled for. We stand pledged to open the route to the commerce of the world, and by adopting the policy of international agreement to its neutrality, so successful at Suez, all danger of the route becoming a battle ground will be eliminated. It is conceivable, however, that in the event of the passage of a fleet in time of war the hostile nation might plot its interruption, and as a military engineer, whose duties have made him familiar with the use of modern high explosives, I have given thought to the relative dangers of such attempts as directed against the two projects.

The most vulnerable points are not the locks and sluiceways, for these occupy but little space and would certainly be guarded effectively. The danger would be at the points where a narrow waterway traverses a jungle, favoring the placing of a bag of dynamite where the ship must certainly pass, and where a man concealed in the undergrowth could lie in wait to fire the mine with a portable electrical igniter, little exposed to danger of detection by a patrol. Such places abound on the long and narrow route of the sea-level project, but are rare and easily watched on the relatively broad lake route. The conclusion is thus manifest that the former has much more to fear from such operations than the latter. Moreover, actual experience at Suez has not developed any such hostile tendency.

DANGERS FROM EARTHQUAKES.

Fortunately the Panama route traverses a region less exposed to this danger than any other in Central America. It lies about midway between the long line of volcanoes extending southward from Colombia and northward from Costa Rica, and that destructive earthquake shocks are very rare is attested by the wide, flat arch in the ruins of the Santo Domingo Convent at Panama, which has stood uninjured since the early days of this ancient city. Accurate seismographic records kept recently for the same forty-four consecutive months at Panama and San Jose de Costa Rica indicate 4 slight shocks, lasting ten seconds, at the former, and 91 slight and 35 strong shocks, lasting sixteen minutes, at the latter.

A really formidable earthquake might disturb the adjustment of the lock gates, but could hardly affect such an artificial hill as forms the projected dam at Gatun. What it would do to an all-masonry dam rising 200 feet above its base at Gamboa, and sustaining, it may be, a head of 120 feet of water behind it, is not so certain. A failure of this dam from any cause would overwhelm a sea-level canal with a flood compared with which the disaster at Johnstown would be as nothing.

LOW-WATER SUPPLY OF THE CANAL.

Doubts have been suggested to the committee as to the sufficiency of the water supply of the lock canal when the traffic becomes very great, and a few facts as to the matter may be not without value.

The area of the basin of the Chagres above Bohio is about 700 square miles and above Gatun about 1,200 square miles. The area of lake surface above Bohio is 38.5 square miles and above Gatun approximately 110 square miles, or practically three times greater.

The long and careful series of water measurements conducted at Bohio for fifteen years have made certainly known what volume of water the river will contribute during the three months when the natural flow falls below the requirements of the canal. The absolute minimum volume in this long period was 742 cubic feet per second at Bohio and about 1,225 at Gatun. Allowing 4 feet in depth over the entire lake surface as a reserve, we have an additional volume of 1,577 cubic feet per second available, making a total of 2,802 cubic feet per second to draw upon. Part of this must be allowed for unavoidable losses, for which my estimate is the following, based on the most careful study of all existing data:

	Cubic feet per second.
Evaporation	710
Leakage at gates.....	250
Infiltration	77
Lights, power, etc.....	200
Contingencies.....	200
Total.....	1,437

Claims that there may be leakages through the two gorges in the indurated clay at the Gatun dam have been made before the committee, and it has even been imagined that percolation under this indurated clay is possible, such losses suggesting danger to the low-water reserves. The answer is simple. Since losses due to evaporation and leakage at gates are well understood, and the allowance for lights, power, etc., is ample, the above figures would cover a loss by infiltration equal to half the low-water flow at Bohio before calling for larger reserves. Furthermore, as will appear below, the only effect of such purely hypothetical and exaggerated losses would be to hasten the construction of the Alajuela dam, and thus to secure an unlimited supply.

Resuming, after this digression, the consideration of the low-water-supply problem, we find for the water available for lockage the difference between 2,802 and 1,437, that is to say, 1,365 cubic feet per second. The size and lifts of the locks being known, the calculation of the lockage prisms for one transit of the canal is readily made. It demands a continuous flow of 52 cubic feet per second. Having 1,365 cubic feet available, it is clear that 26 daily transits are provided for, which would accommodate an annual traffic of some 28,000,000 or 38,000,000 tons, depending on the average size of the vessels. When this limit is approaching it will be needful to provide a dam on the upper Chagres for additional reserves. An ideal location exists at Alajuela, some 10 miles above Gamboa, which is vastly preferable to the latter as a dam site.

A design for a dam at this place was carefully elaborated by the engineers of the French company, for which the estimated cost was

\$2,400,000. With a water surface rising 130 feet above the bed of the river this masonry dam will afford a reserve yielding a flow of 2,074 cubic feet per second for ninety days, which is sufficient to support 40 daily lockages. Only 27 were assumed in the computations of the minority, giving, with the 26 above explained, 53 in all, which would correspond to an annual traffic of about 80,000,000 tons. Obviously this is a very conservative estimate of what the Chagres may be counted upon to supply. It is absolutely certain that there can be no deficiency of water for any conceivable traffic demands.

In conclusion, I beg you to pardon me if I venture to suggest that as three months was a short time in which to study details in a problem involving so many variants as that of the best possible lock canal, a problem for which the New Panama Canal Company gave its engineers three years and nine months before rendering its report, it would be in my judgment wise to leave considerable latitude to the Commission in preparing the final working drawings, if this type be preferred by your committee. Too narrow limits in wording might tend to defeat the intention of the legislation.

Very respectfully,

HENRY L. ABBOT.

ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Thursday, March 29, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Ankeny, Morgan, Taliaferro, and Simmons.

STATEMENT OF MAJ. GEN. GEORGE W. DAVIS, U. S. ARMY, RETIRED.

Senator KITTREDGE. You may state your name, General Davis.

General DAVIS. George W. Davis.

Senator KITTREDGE. And what is your age?

General DAVIS. I am 67.

Senator KITTREDGE. And your residence?

General DAVIS. At present in this city; I have no fixed residence.

Senator KITTREDGE. What has been your profession or business?

General DAVIS. I have been in the Army since 1861, with a very brief interval.

Senator KITTREDGE. And connected with the Engineering Corps during that time?

General DAVIS. Connected with engineering works a part of that time; I have not been connected with the Engineering Corps as a corps, but with engineering works. I have been on duty under engineer officers, officers of the Corps of Engineers.

Senator KITTREDGE. You were a member of the Isthmian Canal Commission, which was appointed in March, 1904?

General DAVIS. I was.

Senator KITTREDGE. When did you go to the Isthmus?

General DAVIS. On my first trip to the Isthmus I sailed from New York on, I think, the 2d, 3rd, or 4th of April, 1904.

Senator KITTREDGE. In what capacity did you serve on the Isthmus, and how long did you remain there?

General DAVIS. I only remained there on that occasion about two weeks. The whole new Isthmian Canal Commission visited the Isthmus at that time and spent about two weeks there for general survey and observation and then returned to the United States. We arrived back at the end of April. At the beginning of May an Executive order was published containing instructions for the guidance of the Isthmian Canal Commission, and on the following day, the 10th of May, I again left for the Isthmus under orders of the President appointing me governor of the Canal Zone and directing me to take general charge of the work then in progress on the Isthmus. I

arrived there on the 17th of May and left there on the 10th of May of the following year. I was there a year, less a week.

Senator KITTREDGE. In addition to your duties as governor of the Zone, what were your duties otherwise as a member of the Commission?

General DAVIS. I was ordered by the President in this Executive order to take charge of the peace and good order on the Isthmus as governor of the Zone. I was ordered by the Isthmian Canal Commission, of which I was a member, to take charge of the work then in progress and to conduct that work until the arrival of the chief engineer, which was to occur presumably in a few weeks. I carried out those instructions, and on the 1st of July the chief engineer, Mr. Wallace, took over the engineering work and continued in charge of the engineering work thereafter, reporting through me to the Commission until the Commission arrived there in August and changed the channel of report, directing, then, that he report to the Commission and not through me as an intermediary or as a channel.

Senator KITTREDGE. Were you a member of the engineering committee of the Isthmian Canal Commission to which you have referred?

General DAVIS. Some time in the winter or autumn of 1904 the Isthmian Canal Commission divided up its members into committees. I think there were five in all, and I was made a member of any committee that might be visiting the Isthmus during such period. I was made ex officio a member of any committee that might be there. The only committee that ever came there as a committee to transact business was the engineering committee, consisting of Mr. Parsons and Mr. Burr. I became a member of that committee by virtue of the fact that they met on the Isthmus, and as such sat with them and deliberated.

Senator KITTREDGE. Where did you live while on the Isthmus?

General DAVIS. I lived for two months after I arrived there on the top of the Culebra Hill, in one of the vacant buildings that the French had turned over to us, just alongside of the Culebra excavation. After I had succeeded in getting an old building fixed up that the superintendent of wagons or teams or teamsters had used under the French régime, when I had had it made habitable, I moved into that building, on the outskirts of the city of Panama, which was more convenient for my purposes.

Senator KITTREDGE. I suppose you were frequently over the route of the canal?

General DAVIS. Oh, many, many, many times.

Senator KITTREDGE. And you kept in touch with what was going on?

General DAVIS. I tried to. I think I was intimately acquainted with it.

Senator KITTREDGE. The engineering situation as well as governmental features?

General DAVIS. I had very close and very intimate relations with the chief engineer, Mr. Wallace. I became quite well acquainted with him, and he was quite cordial with me, and there appeared to be no matters going on between us of which each was not thoroughly aware. He told me of his plans, of his methods, of his processes; and in like manner I talked with him about my business. While there was no

necessity for our doing that, yet it was felt to be wise to be in perfect harmony.

Senator KITTREDGE. You were a member of the Board of Consulting Engineers?

General DAVIS. Yes, sir.

Senator KITTREDGE. And signed the majority report?

General DAVIS. Yes, sir.

Senator KITTREDGE. In favor of a sea-level canal?

General DAVIS. Yes, sir.

Senator KITTREDGE. Are you familiar with the report of the minority of the Consulting Engineers?

General DAVIS. I am; yes, sir.

Senator KITTREDGE. Also the report of the Isthmian Canal Commission—the present Commission?

General DAVIS. I am; yes, sir.

Senator KITTREDGE. Have you read the testimony of the witnesses?

General DAVIS. I have; all except that of General Hains.

Senator MORGAN. I would like to ask you whether at the close of the Spanish war you were made governor of Porto Rico?

General DAVIS. Yes, sir.

Senator MORGAN. How long did you serve in that capacity?

General DAVIS. I arrived there in May, 1899, and turned over the government of the island to the civil governor on the 1st of May, 1900. I remained in Porto Rico until the following December, in command of the forces there, and with instructions to cooperate with the new governor and assist him in every way I could to get the civil government of Porto Rico started off.

Senator MORGAN. While there you had the task of organizing the civil government in Porto Rico under the Government of the United States?

General DAVIS. I did, sir, in way of preparation and assistance.

Senator MORGAN. And virtually did the whole work?

General DAVIS. Well, I should scarcely want to claim credit for everything. I carried out the instructions of my superior, the Secretary of War, Mr. Root—I tried to.

Senator MORGAN. Did you, at any time during or after the Spanish war, have any power of government or command or control in the island of Cuba?

General DAVIS. Before that I had; yes, sir.

Senator MORGAN. Before you went to Porto Rico?

General DAVIS. Yes, sir. I went to Cuba in the autumn of 1898, and landed the first regiment that landed in Habana, and then went and organized the military government of the province of Pinar del Rio, the western end of the island of Cuba, and remained there until the following February.

Senator MORGAN. You were in charge of the military government at Pinar del Rio?

General DAVIS. Yes, sir.

Senator MORGAN. You were not in charge of the Santiago government at any time?

General DAVIS. No; I never was in Santiago.

Senator MORGAN. Then afterwards you served in the Philippines?

General DAVIS. I left Porto Rico in December, 1899, and in January I was in the Philippines.

Senator MORGAN. What were your duties and official functions out in the Philippines?

General DAVIS. I was appointed inspector-general of the troops in the Philippines upon my arrival, but only remained in that position about two or three weeks. I was then detailed by the commanding general in the Philippines as provost-marshal-general of the Philippine division, and was assigned to duty in command of the troops stationed in the city of Manila, which made me practically the military governor of the city of Manila, with instructions to organize that government and get it ready for a civil government as soon as possible. I did so, and six months later I turned over the government of the city of Manila to the commissioners who had been designated by the Philippine Commission to govern the city; and I then went to the southern Philippines in command of one of the departments, and carried on some military operations in the southern Philippines.

Senator MORGAN. What civil functions did you perform during the remainder of your stay there?

General DAVIS. After about a year's stay in the southern Philippines, holding the position, practically, of military and civil governor (if the two functions can be considered to be merged, because the Philippine government had not at that time assumed civil government in southern Mindanao and the Jolo Archipelago), I went back to Manila in July or August, 1902, and commanded the military forces in the island of Luzon for about two months, and then relieved General Chaffee as commander of all the forces in the Philippine Islands. That was on the 1st of October, 1902, and in the following July, ten months later, I was retired from active service and came home.

Senator MORGAN. Did you come home under any new appointment?

General DAVIS. No. I had been informed that I was likely to be appointed a member of the Inter-oceanic Canal Commission. I had received an intimation to that effect.

Senator MORGAN. How long was it after you returned before you were appointed?

General DAVIS. I came home through the Suez route and arrived in November, and in the following March I was appointed.

Senator MORGAN. Having had an intimation of your appointment as one of the Commission, when you passed through the Suez route did you give particular attention to that route?

General DAVIS. It was the principal reason why I came home that way, so that I could see it and study it.

Senator MORGAN. You wanted to study it before you took your office as Commissioner?

General DAVIS. Yes.

Senator MORGAN. That is all I wanted to ask the General.

Senator DRYDEN. Did you spend any time at Suez besides passing through the Suez Canal as a traveler?

General DAVIS. No; I was only there two and a half days, I suppose, in all. I should have liked to spend a week or two there, but the movements of the transport did not permit.

The CHAIRMAN. General, will you now proceed (if there are no other questions to ask at this point) and give the committee such information as you have prepared for it?

General DAVIS. Gentlemen, I have prepared some notes here which represent some ideas that I will express to you, with your permission, and will make them the basis of any subsequent remarks or answers to interrogations which you may wish to put to me. If you wish to interrupt me at any time, do not hesitate to do so, because I can take up the thread of my remarks easily.

The CHAIRMAN. The committee will endeavor to let you go along and finish your statement as far as possible, after which we will probably want to ask you a number of questions.

General DAVIS. What I have to say begins with certain general considerations that relate to the canal question in a very large way and have nothing to do with the type or physical features.

There are some general phases of the isthmian canal question that do not seem to have received attention in the consideration of this committee, so far as may be judged from the printed reports of the hearings. I would like to be permitted to briefly discuss a phase of the question affecting type ultimately that has no concern at the moment with the subject of locks, sea levels, dams, curves, prisms, speed, capacity, and safety.

The aspect of the question that it seems to me has so far been overlooked requires for its elucidation a consideration of the geography of the earth and the size, situation, and relation of the continents and oceans to each other, together with the distribution of the world's population.

A glance at a map of the Eastern Hemisphere shows graphically certain facts respecting the physical conditions and relations of the densely and sparsely populated areas to what are and must always be the great commercial activities of trade, commerce, and travel.

In Europe and Asia are found nearly two-fifths of the habitable land areas of the globe, and within them live more than four-fifths of the world's inhabitants. Africa contains nearly one-fourth of the globe's land area and contains about one-twelfth of its inhabitants.

The Arctic Ocean, lying in the north of Europe and Asia, does not supply a practicable marine route between the eastern and the western seas. The Atlantic, Pacific, and Indian oceans, with the Mediterranean and Red seas, border Europe and Asia on the west, south, and east; and the natural obstacle—104 miles wide—that was interposed to the mariner at the Isthmus of Suez, was removed by man many years since, so that now the ocean-borne coasting trade of this vast northern area and population encounters no obstacles to free movement save those that the winds and waves interpose everywhere on the ocean to the sailor. The population of the northern and northeastern shores of Africa also depends upon the Suez route in passing between the Atlantic and Mediterranean waters on the one side and those of the Red Sea and Indian Ocean on the other.

All the inhabitants of Europe and Asia and half of those of Africa that are in any way interested in water-borne interoceanic commerce of the eastern world are served by the Suez Canal, that joins the Atlantic and Mediterranean to the Indian and Pacific waters; or their vessels must double the Cape of Good Hope, which involves an increased distance of 2,700 miles as a minimum and 4,300 as a maximum.

In the Western Hemisphere the geographical conditions are not dissimilar to those just referred to, although the areas are much

smaller, and the populations now waiting for better and shorter means of interoceanic transit are very many times smaller.

There is in the western as in the eastern world no navigable waterway through the Arctic, and no way for a vessel to pass directly between the Atlantic and the Pacific save by doubling the southern extremity of South America. But the obstacle that nature has interposed to a shorter route of travel and trade is fortunately not an insuperable one; for a canal half as long as that at Suez through the Isthmus of Panama will shorten voyages between North Atlantic and North Pacific American ports, via Cape Horn, by a distance of 9,600 miles, or considerably more than double the saving that the Suez Canal permits between England and India. Subjecting Panama to the same treatment that resulted in joining the Mediterranean and Red seas will result in separating the American continents and joining the oceans, just as the making of the Suez Canal did in the Old World.

The density of the population to the square mile in Europe is 107 and in Asia 57. When North and South America shall have been peopled as densely as is Asia now, the total American population will reach 760,000,000 souls.

When we consider that there is more waste land in Asia than in the two Americas; that the Indian population of nearly 300,000,000 is distributed at the rate of 164 to the mile; that the 28,000,000 inhabitants of Java, a little larger than Cuba, have a density of 568 to the square mile; that migration from the Old to the New World is proceeding at an enormous rate, and that it is an ever-increasing one, we may well believe that the New World may in one or two centuries have a thousand million inhabitants, and that it may attain to one-third of this figure by the time the Panama Canal shall have been in commission fifty years.

It seems to me, then, that we should have these considerations constantly in mind when discussing the capacity, dimensions, and type of this great waterway, that can never have a rival save the other continental interoceanic canal at Suez. Should it not be at least as capacious, free, and unobstructed as the best of the excavated channels that man has made, or that he will ever be called upon to make?

What the situation demands is well known, and the American Government has declared to the world that the obstacle at Panama shall be removed. Will it be removed if we leave a hill over which the world's commerce and navies are to be hoisted? Will the world consider that we have adequately solved the problem, and will the American people be satisfied with the result if we offer them anything inferior as respects capacity, or convenience, or adaptability for enlargement, or type, to what private capital did for the Old World—a canal which now serves as a model, and will continue to until we acquit ourselves of the responsibility voluntarily and eagerly assumed?

Two object lessons: There is in the United States no really maritime canal; and, fortunately, the physical characteristics of the land do not require that any be made. Cape Cod may be segregated from the rest of Massachusetts; the Delaware and Chesapeake bays may be joined, and the Florida Peninsula may be traversed by a waterway; but these are all subsidiary—merely possible conveniences. But the Panama Canal is not in this category.

Only one of our many internal waterways has ever been considerably enlarged and adapted to use by vessels of considerable size. I refer to the one between Lakes Superior and Huron, which really is not a canal at all, but instead a lock proposition with a few thousand feet of channel approaches and jetties at each end. Its locks are more analogous to some of those great tidal harbor basins of Europe, to which access for the loading and discharging of vessels is afforded by locks or gates, than to an interoceanic canal.

The Soo Canal, so called, is a mile and six-tenths long. The six locks in the minority's plan of the Panama Canal are $2\frac{1}{2}$ miles long. These locks alone of the proposed lock plan at Panama are nearly a mile longer than the whole Soo Canal with its lock.

Had Nature given to Lakes Superior and Huron a common level, as she has to the oceans, the supposed obstacle at the Soo to free communication would have long since been removed by the construction of a channel clear of all obstructions, and this regardless of any cost that was within our capacity and resources. But, unfortunately, Nature made such simple treatment impossible, for Lake Huron is twenty-odd feet lower than Lake Superior. It was useless to wish for an ideal treatment of the obstacle, for it was an impossibility; and American and Canadian engineers have provided the best solution possible.

At first locks 350 feet long sufficed. Then one 515 feet long was added. Next the first were demolished and replaced with a lock with chamber 800 feet long. Then the Canadians made another in their territory 900 feet long; and we are about to demolish our second lock to put in one 1,400 feet long. So now there are three parallel locks at the Soo, with a combined length of 2,215 feet, soon to be increased, not in number, but in length, to 3,100 feet.

Senator KITTREDGE. May I interrupt you there? I did not quite understand the statement regarding the 1,400-foot lock.

General DAVIS. Congress, as I understand, has authorized the construction of a 1,400-foot lock at the Soo, and they propose to tear out the Weitzel lock and put the new 1,400-foot lock in its place. I am told that by the engineer in charge.

Senator KITTREDGE. Does that mean a lock with usable dimensions of 1,400 feet?

General DAVIS. With usable dimensions of 1,400 feet, less the swing of the gates; yes.

Senator DRYDEN. Is the object of lengthening that lock to permit more of the medium-length vessels to get in at one time?

General DAVIS. That is it; that is it. They put in two, three, four, five, six of those boats and barges, you know. The whaleback barge is a common method of transportation there.

Senator MORGAN. In what act was provision made for that 1,400-foot lock?

General DAVIS. I could not tell you offhand, Senator. My information comes from the engineer who is in charge of the Soo locks. He says that they are just now making their plans to tear out the Weitzel lock and put in a 1,400-foot lock.

Senator MORGAN. It is one of those things that slipped into an appropriation bill, I suppose.

General DAVIS. I can hunt it up.

Senator MORGAN. We will get it. I was just inquiring.

General DAVIS. My information is based on what Mr. Ripley said.

Senator TALIAFERRO. The point in that, General Davis, is that it has been found necessary to enlarge these locks from time to time?

General DAVIS. Continually. I am coming to something else upon this point which is quite pertinent to it.

If the commerce of the Great Lakes continues to increase in the future as in the past, this plant for making the transit at the Soo will be overtaxed, and more locks or larger ones demanded. On the other hand, an international commission is now in session considering the question of a probable, indeed certain, inadequate water supply for the combined purposes of navigation and other industrial uses; for it is evident that the one or the other must be curtailed. General Ernst is a member of that commission, and they are now trying to draw up regulations to get the two countries to agree to specify that this industrial establishment shall not use more than so many second feet, or that that one and all shall not use more than so many second feet, or that the whole use of water on the American side shall not exceed so much, and so much on the Canadian side, so that there will be left enough to serve all purposes partially.

Senator MORGAN. All purposes of navigation?

General DAVIS. Yes; and industrial purposes, too. Navigation is an industry. I do not know that the navigation men have any superior claim with respect to the use of waters over those who may have riparian rights along the channel. However, that is aside from my purpose.

The Soo locks have served a most beneficent purpose. They have been admirably managed. They are an object lesson that the Board of Engineers very carefully studied. But when we endeavor to apply at Panama the principles governing at the Soo, and propose to equip the interoceanic canal with devices such as could not be dispensed with at the old lake portage, the lesson of the Soo is inapplicable. A lock or locks of small lift was necessary to overcome the difference of level; but at Panama there is no difference of level that can not be surmounted in the same way that the Suez interior elevations were.

The ships plying the Lakes are built to suit the lock conditions, and they pass and re-pass every ten days or two weeks during the open season. During the closed season—one-third or more of the year—the boats and the locks are idle, and there is a time for general overhauling; for it is certain that no vessel will ask passage either up or down. But at Panama the ships will not be specially built for the canal, but for the navigation of the broad oceans, and there will be no time, either months or days, when the canal will be out of use.

It has been claimed that since it is proposed to make the Panama locks in pairs there will be ample time for the overhauling of one flight by putting it out of commission temporarily and depending solely on the other flight. But when the traffic increases so as to approach or reach the limit of capacity of both flights, the disuse of one for even a few days would cause intolerable delays; for one will never know when an accident disabling a lock will occur.

This example of the successful use of locks at the Soo has apparently served as an object lesson to many American engineers who are forgetful or ignorant of the splendid examples of Suez, Kiel, and Corinth. It sometimes seems that in some men's minds it may have come about that the canal at Panama, or indeed any canal, can not be

thought of even save in terms of locks, for if all the arguments that have been adduced in praise of these devices be accepted as sound, then it would seem to follow that the only way to make the Suez Canal perfect would be to put a lock at each end and feed the summit level from the Nile, a proposition that was once seriously considered in a way at a time when it was alleged that the Suez Canal, as it was in 1870 to 1880, would soon be inadequate.

It has been suggested that the adherence of the majority of the Consulting Board, including all the foreign members, to this sea-level idea, may have been due in part to the fact that the great canal of the Old World is that at Suez, while the great canal of the New World is the Soo—one at a uniform level and the other in two levels; also that the recommendations of the majority are vitiated by their having ignored the latter.

I hope to be able to show you, gentlemen, that there are very good, indeed abundant, reasons for the expressed preference of the majority to make the Panama Canal conform in type to the former.

At least three of the majority, including one foreign member, have seen the Soo lock in operation; but I am told that not one member of the minority or of the Commission ever saw the Suez Canal, while several of the majority, including one American member, have personally inspected that greatest of all maritime canals. If there is an inadequacy of personal knowledge by the members respecting either object lesson, it would seem to apply with most force to the minority as respects Suez.

There has been a reference made in the papers before you to what is claimed to be a fact, that the tonnage passing the Soo locks is three times greater than that passing Suez. In 1905 the Suez Canal passed 13,000,000 net tons, and there passed the Soo some 36,000,000, or about two and three-fourths times as much tonnage. A valuation of this freight at \$10.60 per ton, the figure of 1904 (I have not the value for 1905), would give the aggregate of the commodities transported at the Soo a value of \$381,000,000. The goods handled consisted largely of articles of the least unit value of any transported anywhere, such as iron ore and coal, representing over 27,000,000 tons in 1904 out of a total of 31,500,000.

What is the value per ton of the freight passing through the Suez Canal? We have no means of knowing; but it must be many times greater than the raw materials moved between Lakes Huron and Superior. A large part of it must be general merchandise, which at the Soo is placed at \$135 per ton. It would seem to be conservative to estimate the Suez freight at \$50 per ton, in which case the value of that traffic would reach \$650,000,000, or nearly double the value of Soo freight. If it be put at \$30 per ton, the figure would be \$390,000,000, or quite equal to the other. So that we see that the actual importance of the two routes measured by the value of the goods moved is probably greatly in favor of the Old World canal.

Again, if the value of the ships using both routes be taken into account, the comparison would be still more in favor of Suez; for there are moving in constant procession many of the most costly ships in the world—great commercial liners, battle ships, and cruisers—while the ships plying on the Great Lakes are generally the simplest freighters and barges.

As a route of travel, the contrast is still more remarkable. The number of passengers passing the Soo in 1904 was 16,120, while the number passing Suez in 1902 (the last year for which the data are available) was 228,775.

The statement that the Soo transit is three times as important as that at Suez seems to have no sufficient basis of fact to support it. Why, then, should not the Board of Engineers, with all the data available, physical and statistical, have assigned more importance to the traffic figures of the Old World example than to those pertaining to the other? And why should not those gentlemen, chosen to advise upon a solution of the Panama problem as respects type, have endeavored to present a feasible plan for adoption that would insure the realization of a waterway better in every respect than the best that exists, so it be realizable at an expenditure in money within the financial capacity of this great nation and within a reasonable period of time?

If any of those who have formed and expressed opinions upon this question of type are beset with an idea that has controlled or warped their judgment by what has been sometimes called a mental obsession, to which group do they belong?

Now, as to the type—whether sea level or with locks:

I have, I think, read about all that has recently been printed by the Government in the way of criticism or commendation of the majority and minority plans for a canal at Panama. What I propose to say as respects this important question will be said as a layman to a lay audience. The President and the Secretary of War have submitted their opinions, and we have also been favored with an expression of judgment by the Isthmian Canal Commission and its present and former chief engineers.

The critics of the majority report admit that a canal at sea level would have certain advantages. I think it may be said that one and all concede that if a sea-level waterway be wide and deep enough it would be superior to any involving excavations, lakes, locks, and lifts; but they discard it as impracticable because of the greater cost.

Some or all those who favor a plan involving 170 feet of lockage admit that the Suez type would be somewhat less exposed to damage in time of war; that the operating and maintenance expenses alone would be less, and that small ships would traverse it quicker than the others. On the other hand, it is claimed that the majority estimate of cost is too low; that there would be very much more liability to accident during construction; that it would require about twice as long to construct; that its transit by large ships would be less speedy; that it would be more difficult to enlarge—in short, that the canal made as proposed by the minority would be safer, more feasible and desirable than the other.

The propriety of a discussion by an officer of the Government of the officially expressed opinions of his superiors should not be permitted or thought of. This is an elementary proposition that no one will question. As I had been informed that I was to be called before this committee and questioned respecting my views upon the subjects that had been receiving attention here, I took occasion to ask the Secretary of War how far he wished me to go in discussing the subject, upon which he had submitted a recommendation to the President.

He asked me to say to this committee that he desired that I feel myself entirely free to elucidate to you in the fullest manner the questions you are considering.

The letter to the Secretary of War transmitting the reports of the Board of Engineers and the review of the same by the Isthmian Canal Commission and its chief engineer are before you. Certain conclusions have been reached by the Secretary from a study of the papers transmitted that seem to me to be based upon misconceptions of fact or a misunderstanding of the arguments and conclusions which are the subject of his review. With your permission, therefore, I will briefly invite attention to some of the more important of his observations and endeavor to show that too much or too little weight has been given to the sea-level and lock-plan arguments.

As to the question of a winding waterway and tortuous navigation—those being some words that the Secretary has used in his letter as applied to the sea-level plan:

The total curvature of some existing and proposed canals, expressed in degrees of arc, is as follows: What I mean by that is, that when you turn a certain curve, you also make a change of direction measured by a certain number of degrees. Each curve has its own angular measurements. Adding together all those angular measurements gives the total angular measurements for the canal route. That will explain what I am going to say.

The proposed Panama sea-level canal has 597° of curvature, as proposed by the majority. The proposed Panama lock canal has 637° of curvature, as proposed by the minority. The existing Kiel sea-level canal—that is, the state canal of Germany, which connects the North Sea and the Baltic, and which has been built primarily for the purpose of enabling the German fleet of war vessels to pass and repass without going through the Danish channels—has 830° of curvature in a distance of about 60 miles. I have the exact distance here somewhere. The existing Suez Canal has 530° of curvature—the present one.

Senator TALIAFERRO. In what distance?

General DAVIS. In 104 statute miles.

The minority claim that all sailing courses in their lock plan are straight lines, and that moving vessels will simply change direction at points where these straight lines meet. But curves are shown on the lock plan at each change of direction. A vessel changing direction in these curves will not come to a full stop in the angle and take up the new direction as from a fixed point. If she did that, she would have to be pulled and pushed about with tugs; she would have to turn as on a pivot. They do not propose anything of that kind; but she will sail around the curve, and if her course is as plotted on the lock-plan map, she must sail these curves and make the angular changes, 24 in number. I think General Ernst yesterday counted them up and only noticed 18. There are 24 on their schedule of curves, which I have before me, compiled by the minority.

Senator MORGAN. On the lock canal?

General DAVIS. On the lock canal; 24 of these changes of direction, as against 19 in the sea-level plan, or 21 per cent more winding and tortuous navigation for the lock than for the sea-level sailing courses.

This defect of the lock plan is claimed to be cured and more than cured by making the channels broader. But there is a difference of opinion as to this. I quote from Admiral Goodrich, of our Navy, Admiral Ryder, of the British navy, and Sir John Stokes, of the royal engineers, who was the senior for about twenty years of the British members of the board of directors of the Suez Canal, in which, as you know, England owns nearly one-half the stock, and is therefore represented in the board by her own appointees.

The present Admiral Goodrich (now stationed, I think, in California, commanding the North Pacific Station) passed through the Suez Canal a good many years ago; and in his report to the Secretary of the Navy this is what he says about the navigation. I will ask you to remember that at that time the Suez Canal had a bottom width of 72 feet and a depth of 26 feet. [Reading:]

"Two causes of bad steering are to be apprehended, one the effect of the ebb current in the southern section, which begins to be felt 12 miles from Suez and reaches 3 miles an hour at the terminus. Another imminent source of grounding is due to unequal width of the deep-water section, which is particularly noticeable at the sidings. So long as the channel is of uniform width a vessel steers steadily and without the use of the rudder. If the course be straight, vessel will follow the mid-channel, for the reason that the reflex pressure from the banks is equal on both sides."

Senator TALIAFERRO. General Davis, what does he mean by the vessel steering "without the use of the rudder?"

General DAVIS. Just what he says—that when that vessel is started off on a straight course in the canal you can let the rudder alone and the vessel will take care of herself. That is a fact.

Senator TALIAFERRO. Is it?

General DAVIS. Yes, sir.

Senator TALIAFERRO. It is news to me.

General DAVIS. I do not mean to say that they do not keep their hands on the rudder; but he says here that they will steer without the use of the rudder.

Senator DRYDEN. Does that refer to a vessel propelled by steam?

General DAVIS. Oh, yes; oh, yes.

Senator MORGAN. Does that mean that the vessel is really steered by the propeller?

General DAVIS. No, sir; it means that the pressure of water on both sides is exactly equal, and there is no prompting on the part of the vessel to go to one side or the other, for the place of least resistance is right in the center of the canal.

Senator MORGAN. They go for the point of least resistance?

General DAVIS. They go for the point of least resistance, and if they should go toward the bank they would meet with resistance. If they should go toward either bank they would meet with resistance, so the place where the vessel can go ahead easiest is reached in the center of the canal, and that is what Admiral Goodrich says. [Reading:]

"So long as the channel is of uniform width a vessel steers steadily and without the use of the rudder; if the course be straight, vessel will follow the midchannel, for the reason that the reflex pressure from the banks is equal on both sides; but where the width is increased by an enlargement wholly on one side the pressure varies,

being, if the width is doubled, four times as great on the side of least extent of deep water as on the other."

That is, these pressures are as the squares of the distance.

"In consequence the ship yields to the greater pressure and heads directly for the transverse bank which makes the end of the siding."

He is talking now about these sidings in the Suez Canal, which were made in order to facilitate ships passing each other. They are mere notches, cut right out of one side or other of the bank, and of course the end of the notch represents a transverse wall of earth. He says that a ship coming abreast of one of these enlargements shunts right off for the enlargement—that is, she tries to get to the center of the channel all the time.

Senator MORGAN. Ships that are put into these notches are stopped?

General DAVIS. They are stopped absolutely, and tied up there until the other one goes by.

Senator MORGAN. Until the other one goes by; yes.

General DAVIS. On the subject of increasing the width of canal, which from about 1870 to 1880 was under discussion, Admiral Ryder, of the British navy, reported:

"At first sight it might appear advisable that the canal should be widened, but I am convinced it would be a misfortune, as wild vessels that now cannon harmlessly from bank to bank of the ditch, which is only 72 feet across, would then, instead of cannoning, dig their stems in and stick perhaps for hours."

Senator TALIAFERRO. General, before you proceed, do you know the width of the Suez Canal at these points for passing—for ships to pass each other?

General DAVIS. At that time they were much less than the figure I give you now, but now they are 147.6 feet. That is their width now.

Senator TALIAFERRO. At the passing places?

General DAVIS. At the passing places; yes, sir.

Senator KITTREDGE. At the bottom or the surface?

General DAVIS. At the bottom.

Sir John Stokes, of the Royal Engineers, in his report to the Government—this is an official paper—says:

"It has been urged as a reproach against the company that it did not excavate a channel of the full width originally intended, namely, 200 feet at the surface and 144 feet at the bottom."

That was the plan that Mr. De Lesseps set out to accomplish. He got just half of that—that is, he got 72 feet instead of 144. [Reading:]

"But I think it is a fortunate circumstance that the intention was not carried out. I believe that the navigation is, in consequence, effected in much greater security, that the risk of collision is greatly reduced, and that in the long run the passage through the canal is performed in a much shorter average time than if vessels were allowed to navigate without supervision. If the canal were wider, and vessels allowed to navigate without restriction, obeying only the rule of the sea, the usual rivalry and endeavor to get through as quick as possible would, even if restrained by regulations, be accompanied by the usual collisions sometimes occurring from accidents beyond control.

"There is practically no limit to the number of vessels that can be passed; the present 'sidings' can be increased in number, but as

the large Bitter Lake affords the means of shunting any number of vessels "_____

(At this point General Davis indicated on the map the location of the Bitter Lake on the Suez Canal.)

Senator KITTREDGE. How far is that, General, from either end?

General DAVIS. That is about 25 miles from the Red Sea, and this end of it is about 60 miles from Port Said.

Senator KITTREDGE. It is about 15 miles long?

General DAVIS. There are 9.38 miles there of uninterrupted lake navigation.

Senator KITTREDGE. And the longer section is about 15 miles longer than the Panama Canal?

General DAVIS. Oh, the whole length of the canal from ocean to ocean—

Senator KITTREDGE. No; I do not mean that. I mean from that lake in the central part, of which you are speaking.

General DAVIS. Lake Timsah is a turning point. There is a place where ships can turn around. It so happens that from Lake Timsah to Port Said is exactly 49 miles; and in that distance from Lake Timsah to Port Said there is no place where a ship can turn around, nor anywhere near turn around, unless it is a mere tugboat or something of the kind. It happens to be just 49 miles from Lake Timsah to this end. There is a point where they may turn [indicating] and so they may here [indicating the Bitter Lake].

Senator MORGAN. Does that Bitter Lake receive any contributions of water from the Nile or from any other great stream?

General DAVIS. None whatever, except from the Red Sea and from the Mediterranean.

Senator MORGAN. I know; but I mean did it naturally, before the canal was constructed?

General DAVIS. Oh, no; it was a dead sea; it was dry. It was a dry basin. So was Lake Timsah.

Senator MORGAN. It has been filled up by the water being let in from the Red Sea and the Mediterranean?

General DAVIS. Yes, sir.

Senator MORGAN. So it is now salt water?

General DAVIS. It is now salt water, and so is Lake Timsah.

Senator MORGAN. They were both dry basins before that canal was cut through there?

General DAVIS. Oh, yes. One of the arguments that was brought against the Suez Canal by those who were opposed to its being constructed was this: "Just as soon as you let the sea water into the Bitter Lakes and Lake Timsah the evaporation will turn the whole affair into salt, and you will have nothing there but a body of salt." That was one of the charges against it.

Senator MORGAN. That has not occurred?

General DAVIS. No, sir.

Senator TALIAFERRO. How far is it, General, from the Red Sea end of that Bitter Lake to the Red Sea?

General DAVIS. From here out [indicating]?

Senator TALIAFERRO. Yes.

General DAVIS. That is mile 64, and this is mile 90 or 91. It is about 30 miles. I shall come to that again.

Senator MORGAN. Practically 24 miles.

General DAVIS (reading):

"There is practically no limit to the number of vessels that can be passed; the present 'sidings' can be increased in number, but as the large Bitter Lake affords the means of shunting any number of vessels it is unnecessary to widen the canal. The fact that Her Majesty's troopships, vessels of 4,400 tons, 400 feet long, of 52 feet beam, and drawing 22 feet of water, pass through the canal in an average of 49 voyages of seventeen hours under weigh"—

A distance of 104 miles, remember.

"Their average time in the canal being about forty hours"—

That is, with the nights added, because at that time they did not have any electric lights to use in illuminating the place at night. In other words, the canal was not lighted. (Reading:)

"Affords a convincing proof of the sufficiency of the canal for all reasonable purposes and as a mercantile highway."

This report was written about 1884, when the bottom width of the canal was 72 feet and its depth 26 feet, and when the average capacity of vessels using it was but 1,500 tons. We have the tonnage; we know how many vessels passed; we know what they paid tolls on, and we find it averaged 1,500 tons. But the enormous increase in steam tonnage throughout the world and the increased size given to ships forced the Suez management to enlarge the capacity of the canal prism.

The Suez Canal has been in process of widening, deepening, and flattening of curves ever since it was opened, in 1869. Not a day has passed since then when they have not been taking out something, making it wider or deeper. They are doing it all the time; and I have some very interesting figures here about what it cost. And if there exists such paramount importance or advantage in having straight sailing courses, such as the lock people claim, why have not the curves at Suez, or even one of them, been changed according to the modern idea, as might easily have been effected? These French engineers are not asleep. They are as live men as you can find anywhere; and if this system of polygon navigation had been adapted to canal purposes those Frenchmen would have found it out long since. Instead, they have left every curve which was there originally. They have not taken out one. They have made them flatter; they have made the sweep longer.

This polygon navigation is absolutely indispensable in the Great Lakes, in the submerged channels. There they have to have it, and they do have it, and it works beautifully; and they have followed it in the Hay Lake channel and the Neebish channel and in other parts of the Great Lakes. But this canal as proposed by the minority is a system of lake navigation.

Another point which the Secretary makes is that the proposed Gatun locks are capable of receiving vessels 25 per cent—the minority say 40 per cent—larger than the new Cunarder, whose dimensions are 800 by 88 feet by 38 feet draft.

I want to say a word about this matter of the draft of ships.

If you take Lloyd's Register, which is the standard of all of the registers of shipping in the world—next to it comes the Bureau Veritas of the French—they never, in those books on classifying ships, give you the draft. They give you exact detail about the ship,

its length on the water line, its length over all, and its greatest beam; they will tell you how many horsepower its engines develop, who built them, where the ship was built, and everything else about it, but they never put anything about draft in those tables, because the draft is variable. That is perfectly well recognized. As you gentlemen all know, every foreign ship and a great many American ships have marked on them the maximum load line, sometimes called the "Plimsoll mark," but usually called the "Lloyds mark," which means that you must not load that ship deeper than that mark.

That is all that anybody can say about the draft of a ship. If you put more of the cargo forward and less astern she draws more forward. If you load more astern and less forward she draws more aft. So all we give in our Navy Registers about the draft of our ships is their mean draft, the ordinary, usual draft of battle ships and cruisers. That is very easy to state for those vessels, because when they are put in commission they are expected to carry a certain definite amount of weight. But these commercial ships are continually changing.

The reference to this Cunarder as having 38 feet draft—as given in the report of the Board—means that you must not load that ship so as to draw more than 38 feet; but probably not once in the whole lifetime of that ship will she ever be loaded so as to draw 38 feet.

One of the vessels that passed through the Suez Canal last year, the British battle ship *Terrible*, is put down in the Naval Register as drawing 30 feet, and yet she went through the Suez Canal drawing 26 feet. That shows how little dependence you can put upon the matter of draft, so far as the published reports are concerned.

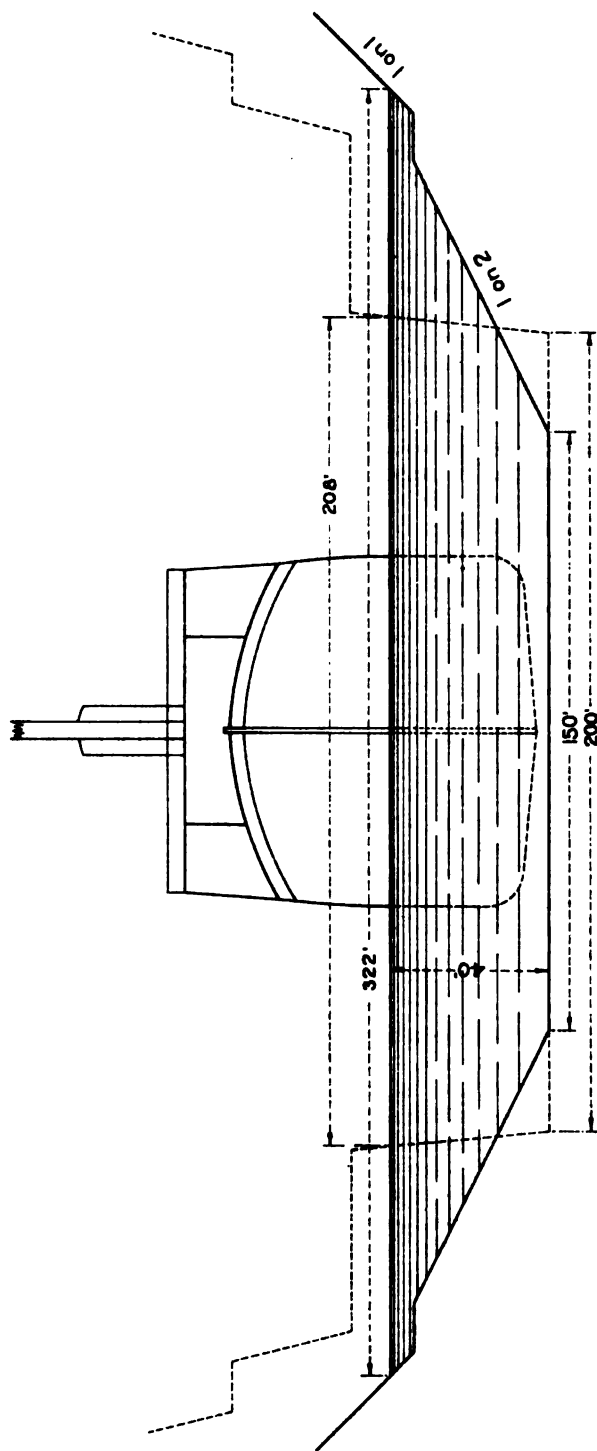
These locks, and all others proposed by the minority, are to have a depth on miter sills of 40 feet. At the end of the dry season the lake level is expected to be drawn down to Level 82, which will decrease the depth of water on the miter sills of the two upper locks to 37 feet, and this low-water period may continue for two months or more, or until the rains and floods restore the level of Lake Gatun to 85 feet. If the supposed Cunarder applied for transit with conditions as above, she would have to wait weeks or even months to be permitted to enter at all.

Again, it is well known that the draft of vessels is greater in fresh water than in salt. This is frequently stated for moderate-sized vessels at $3\frac{1}{2}$ per cent of the draft. With such allowance for increased draft of the Cunarder in the fresh water of Lake Gatun she would then draw $39\frac{1}{4}$ feet, and in entering the lock she would have only 9 inches of water between her keel and the miter sill. Would the owners of a 35,000-ton ship be willing to take the chances of escaping injury with a margin of but 9 inches to go on?

It seems to me that the question answers itself.

The minority may say, "But the majority plan calls for a canal only 40 feet deep, and that only leaves 2 feet of margin to go on," and they will also say, probably, that since it is proposed to spill into the sea-level canal the regulated flow of the Chagres River and some other minor streams, the waters of the sea-level canal will be fresh water and this same remark will apply to that type of canal. That is true if the premises are sound. But there is another condition that will result. If that water is let into the prism of the canal about its center, if the canal is at uniform sea level throughout its

SECTION IN EARTH ~ PANAMA SEA LEVEL CANAL



NEW CUNARDER "MAURITANIA"
 Length 787.6' Beam 88' Draft 37'
 Tonnage 33,200

whole extent and the water is fresh, the ship will have her keel within 9 inches of the bottom of the canal. But that is based on the supposition that the water is all fresh. If, however, no water is coming into the canal, it will all be salt. Therefore she will have 2 feet of water under her keel. But if the coming in of the fresh water makes the water of the canal brackish (as it certainly will), and there is coming in 15,000 second-feet, which is what the majority estimate may be admitted without danger, what will happen in a hydraulic way? That water, piling into the canal at the rate of 15,000 second-feet—and that is a lot of water—will at once raise the level of the immediately contiguous portions of the canal until the water can escape, and it will continue to do so, and do so, and do so, and do so more and more, until, instead of the depth of your canal at that point where the Chagres water comes in being limited exactly to 40 feet, it will be 41 feet, perhaps. I do not know what the calculation would show, but it will be quite 41 feet, and it may be 42, and the slope to the sea on either side will take up the difference, and as the sea is approached the waters of the canal will become less and less fresh and more and more salt.

Senator TALIAFERRO. Do you understand, General, that this water from the Chagres will be let into the canal in sufficient quantities to raise the depth of the canal at that point?

General DAVIS. I am sure that letting in the water at 15,000 feet a second will sensibly raise the level of the water at the point where it comes in, and in a decreasing extent on either side. I do not believe anybody will dispute that proposition.

Senator TALIAFERRO. Do the majority estimate that?

General DAVIS. No; their plan is not based upon that idea at all.

Senator MORGAN. Could you not get rid of that difficulty by deepening the prism of the canal for a few miles?

General DAVIS. It could be done, sir, but I do not think it is a difficulty. I do not think it really is a difficulty. I do not think that this ship of 38 feet draft is going to appear in the Panama Canal in a generation, or in two generations, drawing 38 feet. The greatest draft of any ships entering New York to-day—these sixteen, seventeen, eighteen thousand ton vessels, twenty or twenty-two thousand ton vessels—is only about 30, 31, or 32 feet.

Senator TALIAFERRO. Still, you hold that if such a ship should offer to go through that canal she could be safely gotten through?

General DAVIS. We do; and there she is represented [indicating drawing]. There is 150 feet bottom width, and there is the *Mauritania*, one of the new Cunarders, with a draft of 38 feet. She has 2 feet of water under her keel. She is in the canal with a prism 150 feet wide. There she is represented.

Senator TALIAFERRO. And what is the beam of that ship?

General DAVIS. The beam of that ship is 88 feet, and this bottom width is 150 feet. Now, General Ernst had a sketch here showing two of these vessels lying side by side.

Senator KITTREDGE. It is over here, General.

General DAVIS. No; I took it down. That is mine; that is another. But there is no one that claims that two ships of 88 feet beam can pass in a 150-foot channel. Nobody claims that. Nobody pretends to assert that. This ship, if she did present herself, would have the road cleared for her. It would only be a matter of ten hours for her

to get clear through. Other ships could follow her and others precede her, but she could not pass at speed in any of the narrow parts of the canal unless passing places were arranged for, which would unquestionably be done. She would go through in ten hours as it is, and that is only at the rate of about 5 miles an hour.

Instead of a capacity in the locks for vessels larger than the new Cunarder, it is decidedly doubtful if, as planned, they are adequate for such a ship at all.

Another remark of the Secretary is to the effect that the sea-level canal, as planned, does not fulfill the conditions of the statute so as to afford "convenient passages," etc.

If, in the 21 miles of canal where the bottom width is 150 feet, meeting with the 88-foot-wide vessel by other ships were not permitted for two or three hours, the ship of 38 feet draft would find convenient passage; and this remark applies only to vessels of similar size. By the time the number of such vessels desiring transit reached considerable magnitude the canal would have been widened as would be found necessary; and the cost would be moderate, reaching, for the whole line, as estimated by the Commission, \$870,000 per foot of increased width. The Commission estimates that it will cost \$87,000,000 to widen the sea-level canal to 300 feet throughout. As estimated by the minority, omitting the 4.7 miles at Culebra, the cost is about \$500,000 per foot—that is, \$50,000,000 is the estimate of the minority for widening the sea-level canal to 300 feet in all places except the 4.7 miles at Culebra, certainly not a prohibitive cost to the United States.

Senator ANKENY. What is your estimate of the cost of carrying the Culebra Cut to the width necessary in addition to the other estimate?

General DAVIS. I have not figured it, but I presume that the figures of the Commission are about right; they figured up \$87,000,000 for the whole line.

Senator TALIAFERRO. Including the Divide?

General DAVIS. Including the Divide; and the minority of the board estimate \$50,000,000 for widening all except Culebra—4.7 miles.

Senator KITTREDGE. Was that action unanimous?

General DAVIS. No, no; that is an estimate of the minority. That is found in the minority report.

Senator KITTREDGE. I remember.

General DAVIS. The majority did not discuss that phase of the question. They believe that a canal 150 and 200 feet wide is wide enough for all purposes of navigation for the next twenty years; and when the time comes that we need more capacity, we will anticipate it and be ready for it.

Senator MORGAN. That means 150 feet at the bottom and 200 feet at the top?

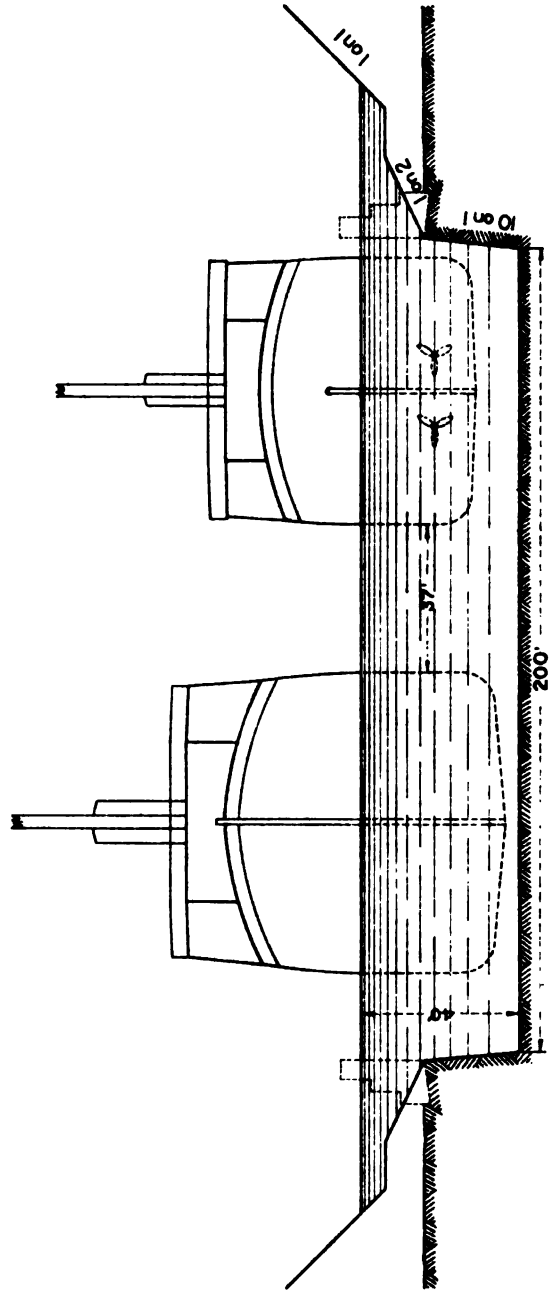
General DAVIS. No; 150 feet at the bottom in the lower portions and 200 feet at the bottom in the rock portions—that is, 150 feet in earth and 200 in rock.

Senator TALIAFERRO. What would be the top width of that 150-foot part of the canal—that part that is 150 feet wide at the bottom?

General DAVIS. It would be nearly 300 feet wide from this point to that point [indicating].

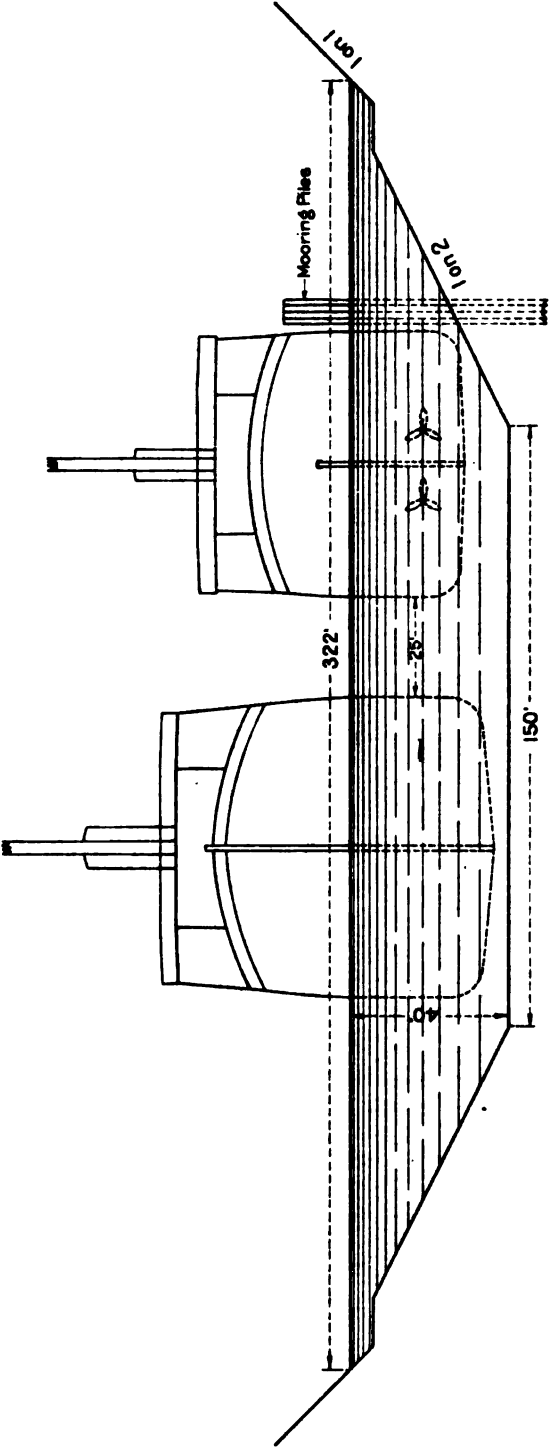
Senator MORGAN. On the surface?

ROCK AND EARTH SECTION ~ PANAMA SEA LEVEL CANAL **WITH RETAINING WALLS BUILT TO ABOVE WATER LEVEL**



CELTIC	KAISER WILHELM DER GROSSE
Length 679.4' Beam 75'	Length 648.4' Beam 66'
Draft 36.5 Tonnage 20904	Draft 29' Tonnage 14,349
Celtic Moving	Kaiser Wilhelm Moored

SECTION IN EARTH-PANAMA SEA LEVEL CANAL



CELTIC	KAISER WILHELM DER GROSSE
Length 697.4' Beam 75'	Length 648.4' Beam 66'
Draft 36.5' Tonnage 20,904	Draft 29' Tonnage 14,349
Celtic Moving	Kaiser Wilhelm Moored

General DAVIS. On the surface; and 150 on the bottom. Now, these two sketches represent two ships. This represents the *Celtic*, a White Star boat. She is 680 feet long and has a beam of 75 feet, and her gross tonnage is 20,904. That is the *Celtic*; some of you may have crossed in her. Now, this [indicating] represents the *Kaiser Wilhelm der Grosse*, of the North German Lloyd Line. Her length is 626.7 feet, her width is 66 feet, and her tonnage 14,349.

That sketch represents this ship as waiting for that ship to pass [indicating]. This ship is stopped on the side, and the lines are carried ashore and tied up to mooring piles, waiting for this one to go by. Now, the majority claim that that is perfectly practicable, and that the delay which will result from this crossing is inconsequential. I will read you a telegram from the chief engineer of the Suez Canal that was written to me a few days ago, in which he says that in the case of these big battle ships that are going through Suez now the average detention of those ships in the whole canal of 104 miles, due to the mooring idea—the idea of tying up ships to pass—is an hour and a half. I have here his original telegram.

Senator TALIAFERRO. Is that the detention as to the ship that ties up?

General DAVIS. It is the average of all. I asked him specifically the question, "Taking your big ships, what delay do they encounter, over and above the small ones, in this tying-up business?" He said: "It makes no difference. It amounts to an hour and a half per ship for the whole fleet that passes through there, and that is 13,000,000 net tons."

Senator TALIAFERRO. The delay here would only occur where there was an unusually large ship to be met?

General DAVIS. That is all. I admit, in this case, that while that ship is passing the 150-foot channel, nothing except quite small ships could be tied up alongside. That is quite true, that is quite the fact, while that ship is passing. You perhaps can not quite see it, but there is the 200-foot channel also plotted there, superimposed on the other.

Senator TALIAFERRO. Yes.

General DAVIS. It comes over to here. Now, in that channel, shunting this ship over so far on this side, a small vessel of three or four thousand tons could be tied up there, and the other could go by. There is not any trouble at all about that. But two ships of this size could not pass with a bottom width of 150 to 200 feet. This is what would happen, however, if the channel was made 300 feet wide: There [indicating] is a 300-foot channel, and there is the *Celtic*, and this is the *Kaiser Wilhelm der Grosse*. Now, that ship is tied up; this one is proceeding.

Senator MORGAN. That appears to be in the Culebra cut.

General DAVIS. Yes, sir; that is supposed to be in the Culebra cut. That is on the idea that you have got a width of 300 feet, and the material is rock.

The CHAIRMAN. What is this one here, General? [Indicating.]

General DAVIS. That is the same idea in a prism where it is part rock and part earth. One of the witnesses before the Board spoke of the disadvantage that would result from the fact that the corner of the rock would impinge against the side of the ship and be a source of great danger. This shows the idea that would be carried out

there—simply a retaining wall built up out of the water, sitting on this rock, which is not a serious matter. In fact, the Isthmian Canal Commission of 1899–1901 proposed to put a retaining wall through the whole stretch of the Culebra cut.

The CHAIRMAN. One ship would be tied up in this case, would it not?

General DAVIS. One ship would be tied up in that case; but the canal is wide enough so as to tie them up anywhere. They can be tied up at any place where there are groups of piles to tie to.

Senator MORGAN. Mr. Chairman, I suggest that before this report is completed, when the the revision of it takes place, we ask General Davis to explain these diagrams, and put the diagrams in the record. I suggest that we ask him to explain them so that they can be printed, and the Senate can get some ideas which can not be communicated merely with words.

The CHAIRMAN. Do you not understand that he is now making an explanation to the stenographer which will go right into the record at the present time?

Senator MORGAN. Yes; it can go right in now.

The CHAIRMAN. But is not the General's explanation sufficient now, as he is going along? Did you want something additional?

Senator MORGAN. I doubt very much whether it is sufficient, because the stenographer is obliged to put in the words "indicating," "indicating," which mean nothing.

The CHAIRMAN. And you would like to have the General, in addition to what he is stating now, explain the diagrams?

Senator MORGAN. Yes; I would like to have the diagrams put in, and explanations inserted by General Davis as to what they refer to and what he proposes to illustrate by them.

Senator TALIAFERRO. And to give particularly the top width of the canal at every point.

Senator MORGAN. Yes. Then the Senate can have a view of it in a picture, as well as in the description.

The CHAIRMAN. In addition to the explanation, as it is going on now, you would like to have General Davis give the difference in width of the 300-foot channel, as well as the 150-foot channel, would you not?

Senator MORGAN. Yes; every particular that he has alluded to.

The CHAIRMAN. General, can you do that for us?

General DAVIS. Oh, yes.

Senator DRYDEN. General, I was called out before you explained that matter, and I would like to ask you just one or two questions there. What is the width of the canal at the point illustrated by that diagram?

General DAVIS. By this diagram?

Senator DRYDEN. Yes.

General DAVIS. One hundred and fifty feet bottom width and about 300 feet at the surface.

Senator DRYDEN. And what is the beam of those vessels represented there?

General DAVIS. That ship is 75 feet beam, and this one is 66.

Senator TALIAFERRO. Just tell the Senator what ships they are.

General DAVIS. This is the *Celtic*, and that is the *Kaiser Wilhelm der Grosse*.

Senator DRYDEN. We had presented to us a day or two ago a similar diagram showing, I think, the proposed new Cunarders?

General DAVIS. Yes, sir.

Senator DRYDEN. And that diagram showed those ships almost touching?

General DAVIS. Yes, sir; yes, sir.

Senator DRYDEN. I would like to have your views on that matter.

General DAVIS. This is the 150-foot bottom width of canal, and in dotted lines is also shown the 200-foot width. Both are represented; one is overlaid on the other. And that is the *Mauritania*, one of the new Cunarders. She has 88 feet beam, and she is supposed to have 38 feet draft, which practically she never will have; but it has been shown here as a 38-foot draft. Now, I stated to the committee during your absence, Senator, that I did not pretend that two ships of that size could pass each other in the canal at the same time. I do not pretend that. Nobody of the majority does pretend it; but they do claim that when such a ship is to pass through the canal the canal company or the Government controlling the canal can very well afford to arrange ahead by telegraph to have all large vessels that are proceeding in the opposite direction lie by in the sidings until she gets through. It is only a matter of a very few hours, and since the whole transit for this ship will only take ten hours, it is an insignificant matter—quite insignificant. It is a matter of delaying some of the other vessels just a few hours.

Senator DRYDEN. When you said a moment ago "lie by only a few hours," you meant a few minutes, did you not?

General DAVIS. A few minutes each; but I meant a very few hours in the aggregate.

I also stated, I think during your absence, that I had been informed by a communication from the chief engineer of the Suez Canal that the average time of detention of all vessels, large and small, in the Suez Canal, due to the fact that they had to be tied up from time to time to allow others to pass, was an hour and a half. That whole business of mooring increased the length of the journey through the canal by one hour and a half; and that is all it signifies.

Some stress has been laid by the minority on the fact that the majority plan does not cover the estimated cost of providing these mooring places and equipping them, and has not made a charge in the report for their maintenance. Mr. Quellenec, who gave me this information about Suez, says that the entire expense of the twenty-three sidings in Suez, ten of which were equipped with telegraph and electric light, etc., is \$60,000 a year—the entire expense of all of those sidings. At Panama, even in the view of the minority, they only designate seven as necessary. The expense for those sidings might reach \$15,000 a year.

Senator ANKENY. Is it not true, General Davis, that in either canal no vessels would pass going in opposite directions at speed?

General DAVIS. No large vessels would pass at speed.

Senator ANKENY. They would never pass each other at speed in either canal?

General DAVIS. Until you have a width of considerably more than we have provided for in the sea-level canal. But the small vessels can pass readily, either at speed or by slowing down.

Senator ANKENY. But they never would attempt to pass one another at speed. They would have to stop in any event, even if they had a canal 1,000 feet wide?

General DAVIS. One would tie up or they would proceed slowly.

Senator ANKENY. That would be the way it would be done?

General DAVIS. Oh, of course it would be so.

In the minority report, on page 86, there is a tabulation which shows the effect of locks and sea-level upon time of transit. It is stated that a type C vessel, which is supposed to be 540 feet long and 60 feet beam, will go through the sea-level canal in eight and nine-tenths hours, and that she will go through the lock canal in nine and five-tenths hours—that is, supposing her to be one of 10 ships for the daily transit. Supposing her to be one of 10, and no more, she will go through a sea-level canal in eight and nine-tenths hours, according to the minority, and nine and five-tenths hours in the lock canal, according to the minority. Now, they say that when that business increases so that there are 20 ships a day of type C, 540 feet long, it will take ten and one-half hours for each one of them to go through the sea-level canal, and it will take here nine and seven-tenths hours to go through a lock canal. In other words, it will be eight-tenths of an hour against her, supposing there be 20 ships a day.

I have made a little calculation to show what that really means. On the theory that there are 20 ships in a day three hundred and sixty-five days in the year, it means 7,300 ships, all of type C—that is, of ships 540 feet long. Now, a ship of type C has a net tonnage of about 9,520 tons. That is about her net tonnage. That is about the tonnage she would pay tolls on, because the ratio between net tonnage and gross tonnage is about in the ratio of 13 to 18. Her gross tonnage would be 13,182 tons, and her net tonnage 9,520. Now, if there were 7,300 of those ships to go through the canal in a year, what would it amount to? It would amount to 69,460,000 tons for just that one kind of ship.

It is perfectly preposterous that there should be any such number of ships of that type to go through the canal. It may be that now there are three or four or half a dozen a year going through Suez. There are a few; there would be a few in Panama. But for the purpose of showing the effect of locks upon this question of delay, and assuming that there are 15 or 20 ships per day of that size, you are demonstrating something that has no applicability to our problem at all, because there would not be any such number of ships. There could not be. It is beyond human reason that there should be.

The Secretary has another observation, which is that "lock navigation is not experimental." But I say that any lock is a cause of delay, an obstruction, a danger. No locks of the lift proposed have ever been constructed. Locks in an interoceanic canal should not be permitted unless the topography and the financial resources of the canal proprietor forbid the sea-level plan; and these objections do not obtain at Panama with the United States as proprietor.

The reasoning which the majority have given in their report as to why they are opposed to locks is so clearly stated, so forcibly stated, that it would be supererogation on my part to repeat it. I think it is sound and logical and forceful. It seems to me that it is hardly necessary to say a word about that. That locks are necessary in

some places is, of course, true; and when they must be used in certain localities they are tolerated. We are delighted with the Soo Canal, with its present arrangement of locks. It is an admirable arrangement. Nature did not permit any other arrangement. We have to use them; and they are beautifully managed, economically managed; but we would not have them if we did not have to. If we were not obliged to, we would not have them.

Senator TALIAFERRO. In other words, locks are used to overcome difficulties that can not be overcome in any other way?

General DAVIS. Exactly so; and they are sometimes used a step beyond that. They are sometimes used to establish a convenience.

Take the great harbor basins in Europe—Liverpool, Bristol, London, Cherbourg, Havre, and all of those in the north of Europe, except around in the Baltic—they have a tide of 20, 25, 26, 27 feet. In a great many of the great harbor basins in Europe if ships were put formerly where the basins now are the tide would run out and leave them aground. They have overcome that difficulty by fencing in these great harbor basins and putting locks in front.

Senator TALIAFERRO. That is a fault or difficulty that can not be overcome in any other way, is it not?

General DAVIS. That is a difficulty that can not be overcome in any other way, except that they could lighter their ships; they could handle all their cargo by lightering, the same as they do in Hongkong and Singapore. But, I say, there it is done to effect a convenience.

Another proposition is that "the weight of dams insures compression of the mud and clay upon which they are founded."

I say that the depth of the compressible base changes abruptly as the two deep gorges are crossed by the dam at Gatun, this depth varying from zero to over 200 feet in four places, and within a very short distance on the dam's axis. It results that immediately alongside a spot where the compressible material is over 200 feet deep the base of the dam will rest on the incompressible indurated clay, but the dam at its highest point will be 135 feet above both classes of foundation. Mr. Stearns thought the total settlement might reach 2 feet, one-fourth of this after the dam was completed. If this settlement should occur over the margins of these precipitous subterranean geologic gorges there would be a tendency or a liability of the earth mass that settled to break away from the part that could not move. The tendency would be for a fault to occur—that word "fault" is used in the geologic sense—which would be a vertical fissure or plane of movement or weakness extending through the dam transversely from its base to its crest.

If a compression should occur such as is counted on as a beneficent feature the opposite would result and a danger would exist.

Senator MORGAN. General, may I ask you a question that is interesting here? You mentioned these "geological gorges." Is there any authority that you know of amongst scientific men, amongst geologists, for denominating those as geological gulches or geological gorges?

General DAVIS. It is a name that has been applied to them by all the writers that have talked about the canal problem at Panama ever since it began to be discussed by scientists. There have been, I think,

four groups of scientific observers at Panama. One is a gentleman whose name I can not recall, connected with the University of California, who made a visit to the Isthmus many years ago and wrote a report on the geology of the Isthmus. Another was Mr. Hill, connected with Harvard University, who visited the Isthmus ten years ago, I think, and wrote a book on the subject of the geology of the Isthmus.

Senator MORGAN. That report is among the papers of this committee.

General DAVIS. No, sir; not the report of this Board; no. The next observers who wrote a report were two Frenchmen—Zurcher and Bertrand. They went there at the time the new French canal company was endeavoring to put its scheme on its feet and get money to build the canal. They are distinguished scientific men, distinguished in their own country, and their opinion is regarded as deserving of attention. Their report is printed in this book, translated and printed. They had before them, when they wrote that report, all that Mr. Hill had written, and all that the California geologist had written; and they discussed the geology of the Isthmus from those standpoints. These, and other writers, speak of that geological gorge at Panama; they all refer to it by mentioning it as the probable bed of a prehistoric river which flowed into the sea when the land was at least 300 feet higher than it is now with respect to the ocean. They all refer to it in that way, and we have taken up that term from those reports.

Senator MORGAN. That is to say, they are gulches that have been washed out by water?

General DAVIS. Washed out by water when the land was higher with respect to the sea than it is now.

Senator MORGAN. And not formed as a part of the original crust of the earth there?

General DAVIS. Oh, no. The land may have been a great deal higher than it is now; we do not know how high. It is a well-known fact that the Hudson River bed extends about 400 miles out into the Atlantic Ocean. You can trace it three or four hundred miles, clear out to the Gulf stream; so that the land was once a great deal higher than it is now.

Senator MORGAN. Yes.

General DAVIS. And so the Chagres River perhaps drained an isthmus that may have been many times as wide as the present Isthmus is.

Senator MORGAN. The point I was trying to trace was as to whether or not those gulches are attributable, according to the common consent of all who have examined them, to the attrition of water?

General DAVIS. Oh, there is no question about that. I do not think there are any two opinions on the subject.

Senator MORGAN. That is the point I wanted to get at.

General DAVIS. Another remark of the Secretary speaks of navigation under the sea-level plan as being conducted "through a comparatively narrow gorge." He speaks of difficult navigation on account of the narrowness of the gorge at the Culebra.

So far as concerns navigation, a channel with banks 1 foot high is no more and no less convenient than one with banks 1,000 feet high. It seems to me that that is palpably the fact.

The Secretary says, as a disadvantage to the sea-level canal, that the vessels can not turn about. That is, it is assumed that a vessel gets started and for some reason wants to go back, or an obstacle is found to interpose, some accident has happened, and passage through the canal is interrupted, and it must go back.

I say that only in case of closing the canal through some accident could it be necessary for a ship to turn about. Should it be desired to withdraw a ship from the sea-level canal, she could be backed out or withdrawn by tugs, just as has been or can be done from the 49 miles of the Suez Canal (which is 118 feet wide at the bottom with a minimum width of 108 feet) from Port Said to Lake Timsah, in which distance there is no place to turn about. That is to say, it so happens at the Suez Canal that there is exactly 49 miles (the same length that we have on the Isthmus) where no ship can turn around and where, when an accident happens, the ship has to be backed out, as has been done and would have to be done anywhere.

Senator MORGAN. Ships can be safely navigated stern foremost, can they not?

General DAVIS. Oh, it could be done, but very slowly, of course; and the steering would be difficult.

Senator MORGAN. But I said "safely."

General DAVIS. Oh, yes—safely; yes, sir. It could not be done with their own steam, I think. They would have to be handled with tugs and carefully guided.

The next point is the "greater safety of ships in a lock canal."

If this claim is sound Suez would be safer if it were equipped with locks. It would be very difficult to convince the Suez management of the soundness of this proposition.

It is said that the estimate of the majority is too low by at least \$25,000,000.

The Commission give definite figures for this alleged deficiency. The items are, underestimate of control of streams except the main Chagres, \$7,800,000; underestimate of cost of the Culebra excavation below +10, \$17,159,418; total, including 20 per cent contingent, about \$25,000,000.

The majority have expressed their opinion, and no sufficient reason has been advanced to change their figures. The whole Board of 13 men are responsible for the estimate so far as relates to the Culebra excavation; that is to say, that the Culebra excavation would involve the removal of a certain number of yards of material, which was ascertained to be 110,000,000. The whole Board of Consulting Engineers fixed certain unit prices. They all agreed that those unit prices were adequate to do the work.

Senator MORGAN. There was no dissent from them?

General DAVIS. There was no dissent from those unit prices. Now, the majority found out that there was 110,000,000 cubic yards of material there; that a certain part of it was above +10, and we multiplied that by 80 cents; that another part of it was below +10, and

we multiplied that by \$1.25. That is the way we got our figures, and that is exactly the way the minority get their figures for their excavation of Culebra. So that if there is any inadequacy of estimate there, 13 men have made a mistake—not 8, but 13 have made the mistake.

Senator MORGAN. That would apply equally to the lock canal?

General DAVIS. And that applies just exactly the same to the lock figures as it does to the sea-level figures.

Senator MORGAN. The unit figures are the same for both?

General DAVIS. Exactly the same; exactly the same.

Senator TALIAFERRO. Except as to the locks?

General DAVIS. No; I am only speaking about the inadequacy of these figures for this excavation at Culebra. No; I did not touch the locks.

Senator MORGAN. I am referring to the excavation through the Culebra heights.

General DAVIS. And everywhere, Mr. Senator; everywhere. It applies everywhere.

Senator MORGAN. I particularly had in my mind the question about the Culebra heights.

General DAVIS. Yes, sir.

Senator MORGAN. Because that is the most difficult part of the work. I understand you to say that all of the Board agreed upon the unit prices that you have stated for excavation through that part of it?

General DAVIS. Through that part and every other part.

Senator MORGAN. And every other part?

General DAVIS. Through that part particularly; yes, sir.

Senator MORGAN. And a minority who favor the lock system in their report adopted the same unit prices?

General DAVIS. Exactly; yes, sir.

Three engineer members of the Commission and Mr. Stevens oppose the sufficiency of this estimate. One member of the Commission concurs with the whole Board. The division therefore results, 14 in favor and 4 opposed to the sea-level estimates as respects Culebra. Besides, one member [Mr. Randolph] of the minority of the Board is on record (page 137 of the report) as expressing the opinion that the sea-level canal can be completed within the estimate.

So far as concerns the adequacy of the sea-level figures for the cost of controlling the subsidiary streams, the tally would seem to stand, in favor, the same eight members of the Board and one of the Commission, or nine in all; opposed, five of the Board, three of the Commission and its chief engineer, or nine in all. Or, if you add Mr. Wallace to the majority side, it stands ten to nine. In analyzing these numbers the two nonengineer members of the Commission have not been considered.

As to the estimated time of construction—

Senator MORGAN. If you will wait just a moment, I wish to ask you about a fact that is in my mind, and that it will only take a minute to speak of. In both plans of the canal, as projected by the majority and by the minority—the one a sea-level and the other a lock canal—there is a berm left at the surface or just above the surface of the canal?

General DAVIS. Yes, sir.

Senator MORGAN. In both instances?

General DAVIS. Yes, sir; in both instances.

Senator MORGAN. Is there any difference in the width of that berm in respect to the two plans, the sea-level and the lock plans?

General DAVIS. No, sir; no, sir.

Senator MORGAN. They have the same width of berm?

General DAVIS. I think so, sir; that is my understanding.

Senator MORGAN. So that that berm, when it acts as a means of catching whatever may slip from above, is the same in both cases?

General DAVIS. Exactly; yes, sir.

The majority of the Commission and the minority of the Board think that a sea-level canal will require from fifteen to twenty years and the lock canal nine years. The sea-level task is a plain, simple task of excavation and removal, there being of what may be called "works of art" an item of \$6,920,000 for the tide lock and accessories, while in the lock project there is allowed for similar structures, such as locks, sluices, spillways, moval dams, etc., \$35,267,000.

Senator MORGAN. Right there I think it is appropriate to ask a question about this sea gate. Some of the engineers who have been before us say that by digging the sea-level canal in from the 40-foot contour in the Bay of Panama, with a width of 300 feet (I think that is the way they projected it), the sea gate could be dispensed with.

General DAVIS. Men have expressed that opinion; yes, sir.

Senator MORGAN. Is that your opinion?

General DAVIS. I should hardly be willing to adopt it, with the information that I have and, I think, with the information that exists, because the data to enable one to pass upon that subject is not satisfactory. The currents in a waterway are governed by so many conditions that it is difficult to predict what those currents will amount to in velocity unless you have perfectly well-known conditions. There is an engineer in New York, who is chief engineer of the city of Brooklyn, who has written to every member of the Board and to a great many other people, stating that in his opinion this tide lock is not necessary at all. It is not at all necessary, he thinks. He cites the opinion of a Frenchman by the name of Boussinesq, of the French Academy, who some eighteen or twenty years ago made a report on that subject for Mr. De Lesseps, and he expressed the opinion that the currents in the Panama Canal at the Panama end would not exceed 3 miles an hour. I think that was the figure.

Senator MORGAN. At high tide?

General DAVIS. At high tide, or rather at the time of greatest tidal flow.

Senator MORGAN. Yes.

General DAVIS. Because at high tide it is slack water, and the same at dead low water.

Senator MORGAN. At the time of greatest pressure, in other words?

General DAVIS. Yes, sir. Now, a member of the Board, wishing to get light on the subject, consulted a college professor who was thought to be a very competent hydraulician, and gave him the facts concerning the Panama Canal—told him how wide it was proposed to make the canal prism, what distance it was across, and how much the tidal oscillations were—and asked him to compute the current that

would be derivable from this range of tide, and where that current would have greatest velocity. This professor made a calculation and submitted it, and demonstrated to his own satisfaction that there would be a current of—I have forgotten now; I think it was 9 miles an hour—and that the greatest velocity of that current would be at Colon, 50 miles from Panama, at the point where the Panama Canal entered the Atlantic Ocean. The whole thing was so absurd that even the gentleman who had invited the opinion rejected it as useless. And so it is a subject beset with a good many difficulties.

In the Manchester Canal there is a somewhat analogous case. The Manchester Canal enters the Mersey just above Birkenhead, just above Liverpool. Liverpool has a maximum tide of 22 or 23 feet, and the tidal oscillation at the point where the Manchester Canal takes out of the Mersey is quite 20 feet—that is, quite as much as it is at Panama for the Panama Canal. Mr. Hunter, who was a member of this Board, and who is in charge of the Manchester Canal, and, indeed, who was in charge during its whole time of construction, said that he was satisfied from his observation of the current at Manchester that a tidal lock would be necessary a part of the time at Panama with a canal of the prism which we proposed.

It goes without saying that if that prism be made wide enough we could encounter that current without any difficulty. That has been pointed out by good engineers. For example, the Harlem River, which joins the Hudson and the East rivers, is a tidal estuary through which our own Government has done a great deal of work in straightening the channel and in constructing a canal for navigation between the Hudson and the East River without going around the Battery. The tide there has 8 or 9 or 10 feet oscillation, and boats pass and repass without any trouble through the Harlem River.

That is about all that I can say to you on the subject, except to call your attention to Suez, which is an object lesson in many ways. The tidal oscillations in the Red Sea amount to about 7 feet or 8 feet, as a maximum. There is occasionally about 8 feet of tidal oscillation twice a day. That tide is felt as far as Tossoum, 12 miles from Suez; there it disappears. It practically is felt up to the opening of what is called the Little Bitter Lake, and there it disappears. Now, that current is variable through this portion of the canal, and at times of extreme tidal oscillation it reaches 3 miles an hour at the point of exit, and varies from that all the way up. But Mr. Quellenec says that that furnishes no obstacle to navigation; that vessels pass and repass in both directions, only they observe this rule—that when a ship is going with the current she is never stopped; it is the vessels that are going against the current that are tied up to allow the others to pass. But it furnishes no impediment.

Senator MORGAN. Is it therefore possible, in your opinion, by widening the prism of the canal sufficiently, say to 400 feet, out to the Bay of Panama, from Pedro Miguel or Miraflores, to dispense with the tidal gate?

General DAVIS. I think it is decidedly probable. That is as much as I would dare to say—that it is decidedly probable that it would be so.

Senator MORGAN. Or, if a basin were formed at the foot of the hill there, at Miraflores or in that vicinity, say twice, three, or four times

the width of the canal on its surface, it would probably impede the flow of water from the bay when it is filled up, just as the Bitter Lake does?

General DAVIS. No, no; the tidal flow will be less the less the area into which the tide piles up—that is, if you have a big lake here connected by a tidal lock with the sea, and that had to be filled and emptied twice every tide—suppose that was the case—the amount of water that would pass through this tidal lock would be enormously greater than it would be if it only had the canal prism to fill up. If the storage for water was limited to the canal prism, it would soon be filled, and then there would be nowhere for the water to go. But if you had a big lake here you would have to fill that lake and empty it twice a day, and all the water would have to pass in or pass out through that tidal lock, and it would take a terrific current.

The smaller the area of the prism which has to be filled by water and the wider the opening through which it may be filled the smaller will be the current to be encountered in navigation.

Senator MORGAN. The difficulty I am trying to overcome in my mind, General, is just this: That a tidal gate there is subjected not only to the ordinary pressure of the ocean, coming in at 20 or 21 feet of high tide twice a day, but also to the effect of the increase of the inflow of the water from the Bay of Panama by storms that occur there, sometimes of immense rapidity of movement.

General DAVIS. I was there a year, Senator, and I never saw a wind that amounted to more than a pleasant breeze.

Senator MORGAN. But there have been storms there.

General DAVIS. I never have heard of one. I have never heard of a gale in Panama Bay.

Senator MORGAN. I can get you the record of it.

General DAVIS. Have you that?

Senator MORGAN. Yes.

General DAVIS. I have not seen it.

Senator MORGAN. They are very terrible when they come, and they occur perhaps three times in a century.

General DAVIS. Well, I have not happened to observe the record.

Senator MORGAN. I simply had those things in my mind, and I was trying to find out about them.

Senator DRYDEN. General, I was going, before you concluded your testimony, to ask you a question upon this very same point that Senator Morgan has brought out; and I think it is apropos now to say that I have a letter from a very distinguished hydraulic engineer of my State, Mr. Clement Herschel. Do you know Mr. Herschel?

General DAVIS. He is the gentleman to whom I referred when I spoke of having had correspondence.

Senator DRYDEN. Mr. Herschel has, in a way, been interested in this project ever since Mr. Burlingame returned from China as minister from China to the United States and Europe. The Chinese were interested in having this canal put through.

Senator MORGAN. Away back in the sixties.

Senator DRYDEN. Yes; about 1866 or 1867, Mr. Herschel writes me. And Mr. Burlingame then consulted Mr. Herschel about this project, and he has kept up his interest in a way ever since. He sent me the

proof of an article which will soon appear, if it is not now in print, in one of the engineering journals. Mr. Herschel believes that this sea-level canal, as designed and recommended in the majority report, can be built without a lock. He states here as a matter of interest that the construction of the Corinth Canal was prevented for two thousand five hundred years after it was first projected, because the engineers did not believe that it was safe to build a sea-level canal without locks. Then he refers in his article to the little canal at Tasmania, and also speaks of the Suez Canal—that it was thought that it must be protected in the same way. That is true, I believe?

General DAVIS. Oh, yes; those are all facts.

Senator DRYDEN. I would like to quote, in order to have it go into the record, an extract from Mr. Herschel's article, because I think it is interesting and illuminating on this subject. Of course you will understand that this is taken out of the body of his article.

"We have only these data: A slope of water surface on the Suez Canal $2\frac{1}{4}$ inches to the mile produced a maximum velocity of 2.67 feet per second (1.6 knots); and it will not require profound hydraulic computations to show that in a Panama canal which will have a maximum slope of water surface of 3 inches per mile on 44 or 45 miles of sea-level canal the engendered velocities will not be inordinately great. Again, the precise computations were long ago made by Boussinesq"—that is the engineer your referred to?

General DAVIS. Yes; that is the one I mentioned.

Senator DRYDEN (continuing reading): "And other masters of the science of hydraulics, and may be found in the records of the meetings of the French Academy of 1887, volume 104, page 1484, for the cross section of canal then proposed, and will not inordinately vary from those for the cross sections now proposed."

"The situation as found by Boussinesq and his fellow-members of the committee would be exactly similar to the one above described as existing in the Suez Canal—a long water surface, this time 45 miles long—hinged, as it were, at one end and the other end oscillating some 10 feet above and below the fixed mean level of the sea, making alternately a slope of water surface and of currents to the north and to the south about 3 inches to the mile of maximum slope, and maximum currents of about 4 feet per second (two and a half knots). On rare occasions during the year, brought about by strong gales, this may be exceeded, and there is room for the excess without materially obstructing navigation. Vessels do navigate channels having a 5-knot, 6-knot, and higher velocity currents up to 10 and 12 knots in narrow channels on river rapids."

That is an important fact.

"But it is not the purpose of this article to discuss the debatable questions; and the precise limit of speed at which currents become of material hindrance to navigation is such a question." etc.

Now, Mr. Herchel states in his article, as I read it here, that there has never been any exact calculation or measurement taken to ascertain the velocity of the inrush of the sea at different periods. That is correct, is it not, General?

General DAVIS. That is true. This Board wished very much to make such a study; but the study would have involved a good deal of time, and it was conceived that the Board would have finished its work in three months from the time it was created. It could not take up that subject of discussion, purely scientific study, and solve it or even arrive at any conclusion on it in the time that was available for its purposes. I think it is a subject that the present Isthmian Canal Commission or the chief engineer ought by all means to study with the greatest care; and there should be no pains spared to get every fact bearing on that question of the currents at Panama that is possible. We do know that in the case of the present canal entrance, which sweeps in here [indicating], and at the La Boca wharf, there is an excavated channel reaching clear out here [indicating], and ships have no trouble in coming to that wharf at any time of the tide, and there is a current going in and out there all the while. Even if that wharf had been put away down here somewhere near Miraflores, and the channel were made of the same dimensions, I do not see any reason why ships should not have gone up there to load and discharge if it were desired. There are ever so many facts that tend toward the conclusion that Mr. Herschel has reached.

Senator DRYDEN. If a sea-level canal should be built, whether it can be built with or without locks is certainly a very important question.

General DAVIS. Yes, sir; a very important one.

Senator DRYDEN. And I think that this contribution from the pen of an eminent hydraulic engineer ought to go into our records and be before us.

General DAVIS. I am very glad it will.

Senator MORGAN. Allow me to ask this question: If a sea-level canal were dredged out from, say, Pedro Miguel into the bay, could the question as to the necessity for a tidal lock or gate be determined after the dredging of that channel?

General DAVIS. Oh, yes.

Senator MORGAN. As well as before?

General DAVIS. Yes, I think so; because before you had the Culebra cut dug out you would have ample time to build the lock.

Senator MORGAN. That is it. So that is a question that for its final determination can be postponed even until after the dredging out of the canal from Pedro Miguel into the bay?

General DAVIS. Yes, sir; I think it unquestionably can.

Now, I want to say on behalf of the majority—and perhaps I might presume to speak on behalf of the whole Board, but I will not attempt to represent anybody but myself in this matter—that the

experience of Mr. Hunter at Manchester was what, I think, had more influence upon the Board than any other one thing. Quelenec's observations about Suez all tended toward the elimination of the idea of the necessity for that tidal lock. But when Hunter, speaking for a place where they had just such a tidal oscillation and where they had a canal into which ships had to go and come, reached the conclusion that those currents might reach 5 miles an hour at extreme high water and low water—or at the time when the current was running at its extreme velocity, I should say—the Board did not wish to go against such an opinion, and therefore they have included this provision and \$6,000,000 for building a tide lock which enters into that estimate. If it is not necessary, so much the better, but there is \$6,000,000 there for a tide lock.

I was speaking about "works of art" that were involved in the two plans and as affecting the time of completion of the canal.

The sea-level estimate carries \$6,000,000 for the Gamboa dam and a part (say two-fifths) of the amount allowed for diversion dams, regulations of contributory streams, diversion channels, and embankments. This part of the \$3,500,000 set aside for these objects is \$1,400,000, making a total for sea-level dams, including Gamboa, of \$7,400,000, while the minority allows \$9,551,000 for fixed dams, embankments, etc.

If the Gamboa dam should be built wholly of concrete masonry, and if its cost should be added to the previous total for sea-level works of art, the aggregate for all such will reach \$12,920,000, as against \$35,209,000, or nearly three times more, and the figures for dams required for the two types will be as follows: For the sea-level canal, minus the Gamboa dam, \$1,400,000; for the lock canal, \$9,551,000—the latter sum nearly seven times as great as the former.

The total concrete required in the Gatun locks is said to be 1,300,000 cubic yards, a much larger quantity than has ever been placed in so limited an area; while the total mass of concrete masonry for all locks and regulating works may reach quite 3,500,000 cubic yards.

The minority estimate the time required for the Gatun lock excavation at four years. There is about 4,000,000 yards to come out of that lock pit. They estimate the placement of the masonry at two and a quarter years and the installation of the gates at one and a quarter years, making a total of seven and a half years at most; while it is claimed that the Culebra excavation for the 85-foot level canal will take eight and a half years.

Considering the vast quantities of imported cement, lumber, iron, steel, and machinery required in lock construction; the fact that no sand suitable for concrete is known to exist on the Isthmus save on the sea beach at Panama—and it will take 1,500,000 yards of sand to be hauled for all those locks; that the Isthmus is from four to seven days' steaming distance from the nearest home port; that the rains will prevent outdoor work for about one-third of what we are accustomed to regard as working days; and, finally, that the Isthmus furnishes no skilled labor whatever, then the type of canal which will present fewest difficulties will be the one which calls for fewest mechanical constructions and least skilled artisans.

Eminent engineers have expressed the opinion that the feature of the lock canal that will take longest is the building of the locks, and

that the assignment of ten years to complete realization of the entire work is an irreducible minimum.

With the sea-level plan it is a matter of excavation and transportation than which there is no kind of construction work more simple; a kind of work for the doing of which improvements in tools, means and methods of transportation, and disposal may be more confidently expected than in carrying on the more advanced mechanical operations involved in building locks, lock gates, and movable dams.

The greatest practicable speed of construction obtainable is decidedly in favor of the simple work or digging a ditch joining the oceans at one level over that of forming an elevated channel 85 feet above the oceans in six steps.

In the building of the Suez Canal, toward the close, they made an average output of 2,000,000 yards a month at Suez; and that, you know, was thirty-seven or thirty-eight years ago, with tools and machines that were antiquated—wonderfully antiquated compared with what we have now.

You have all read about the drainage of the City of Mexico, or the valley of Mexico; and you probably remember to have seen, if you went down the Mexican Central to the city, that you pass through a huge chasm that was excavated by the Spaniards hundreds of years ago. It is called the Nochistonga drainage channel. It was commenced the same year that the first white man landed at Jamestown—the very same year, 1607; and it was carried to completion. The work was done by Indians, carrying out the earth in baskets, on their heads and on their backs; and they took out 54,000,000 cubic yards of dirt out of that cut, 12 miles long and over 200 feet deep. That was finished 150 years ago. It was not adequate, and since then they have gone and bored a tunnel through the mountain, and now they have a better system.

The maximum output on the Manchester Canal during its construction, in yards, was about 10,000,000 a month. The plant was limited, and Mr. Hunter said that with a larger plant they could have gone up to 13,000,000 easily, so far as finding a place for them all to work was concerned.

There is a mine in Peru called Cerro de Pasco that was opened up by the Spaniards hundreds of years ago. It is a silver mine. The ore has been taken out entirely by the natives, without machinery, carried up ladders on their backs and on their heads. That pit at Cerro de Pasco is 600 feet deep, 3 miles long, and half a mile wide; and that has been done by human muscle entirely. Culebra is not a circumstance to it. Of course we do not think of any such processes at Culebra. We propose to make steam and water power do that work instead of the hands of men, but it is not such a colossal undertaking. There is 110,000,000 yards to come out. The lock people are going to take out 53,000,000, they say. A little more than half will remain.

Senator MORGAN. That amount of 53,000,000 is down to 85 feet?

General DAVIS. In their 85-foot elevation they take out 53,000,000 yards at Culebra. We take out 110,000,000 yards at Culebra.

Senator TALIAFERRO. What did you say they took out at the lock foundations?

General DAVIS. Something less than 4,000,000 at the Gatun lock. [After examining papers.] It is 3,660,000 yards.

As to the Corinth Canal, which is only 2 miles or $2\frac{1}{2}$ miles long—Mr. Quellenec, the present chief engineer of the Suez Canal, who was a member of this Board, was the consulting engineer at the time the Corinth Canal was made. In that little, narrow, contracted space of only 2 miles they took out 2,500,000 cubic yards a year. And so these examples are found for the doing of something in reducing that Culebra Hill, which is now 165 feet high at the highest point. That is this elevation [indicating on map].

Senator MORGAN. You speak about taking out how many millions at the Gatun dam?

General DAVIS. It is 3,660,000 cubic yards in the lock pit. Oh, the Gatun dam?

Senator MORGAN. Yes.

General DAVIS. Not the dam. I mean the Gatun lock pit. If I said the dam, I did not mean it. No; I mean the lock pit at Gatun.

Senator MORGAN. There is something to be taken out, though, on the site of the Gatun dam?

General DAVIS. Oh, yes; they have to strip the site of the dam, and then they have to cut out the place for the diversion channel and the sluiceway to go through that hill.

Senator MORGAN. I understand. Now, is there any estimate in the report of the minority for the amount of material that has to be taken out, not including that through the hill?

General DAVIS. I think it is not stated in yards, but I think it is stated in money. I think they estimate a certain sum of money for stripping the surface where the dam is to be placed.

Senator MORGAN. So there is an estimate?

General DAVIS. In money; yes. I do not think it is stated in yards.

Senator MORGAN. That is all I wanted to know.

General DAVIS. I think it is all covered.

(The committee thereupon took a recess until 2.30 o'clock p. m.)

AFTERNOON SESSION.

The committee met, pursuant to the taking of recess, at 2.30 p. m.

STATEMENT OF MAJ. GEN. GEORGE W. DAVIS, U. S. ARMY (RETIRED)—Continued.

General DAVIS. The next point brought out by the Secretary's letter is: The cost of operation and maintenance, disregarding capital invested, is in favor of the sea-level canal, but is against it if the interest on the larger investment is allowed for.

My comment upon that is this: The minority, by a French method of computation, estimate the cost of maintenance and operating their six locks and sluices, representing 170 feet of lockage, at \$758,000, and the cost by the same method of computation of maintaining and operating the tide lock and sluice at about \$159,000, the total lockage being less than 21 feet, or less than one-eighth that of the multilock system. Assuming that the figure assigned for the tide lock is fair and that the cost for lock operation and maintenance would be directly as the lock-

age, then the cost of managing and maintaining the six locks should be \$1,382,000, or if cost should be assumed to be in proportion to the number of locks, the figure for the six locks would be about \$951,000.

The experience gained in the operation of the Suez Canal gives us some basis for inferring what may be the cost of some of the features of a sea-level canal at Panama. Suez is 104.8 miles long; Panama will be 49.35 miles long. The harbor at Port Said requires dredging well on toward a million cubic yards yearly. That is stated in their reports in many places. The harbor of Suez on the Red Sea requires no dredging to speak of. On the Mediterranean there is a littoral current that sweeps from the west to the east and that brings the sand along the shore, and so they built out a jetty, which is nearly 2 miles long. At first it stopped all the sand, but by and by the sand filled in between the jetty and the shore and they kept building out the jetty until they have it out now about as far as they think it prudent to go, and they have said that they can maintain the channel hereafter by dredging rather than extending the jetty farther. It takes about a million yards of dredging to keep that channel open.

Senator MORGAN. That much a year?

General DAVIS. Yes, sir.

Senator MORGAN. What do they do with the dredged material?

General DAVIS. Take it out to sea and drown it. If the Board plan for Colon entrance (majority and minority) is carried out, there will be very little dredging required to maintain the same. If the proposed jetty between the mainland and islands and outer harbor of Panama is built there will be no littoral drift and very little dredging at the Pacific terminus. Therefore Panama should be spared much expense of dredging harbors.

The total annual dredging at Suez for the last three years has been 3,414,000 cubic yards in maintaining the channel, and almost 1,000,000 of this was from Port Said entrance. That is from their official reports. The remainder, say, two and a half million cubic yards, was almost all blown into the canal by the desert winds. This is illustrated by this map. This is Lake Menzaleh. That lake formerly extended quite a little distance along here [indicating on map]. There are little hills sticking up all through it. In biblical times, according to the theory of those who have studied historical matters, this country was densely populated, and along here was the site of the city of Pelusium.

Senator MORGAN. The land of Goshen?

General DAVIS. That is what it was; but now that is a salt lake, and when this canal was built that side was the same as this side [indicating on map]. But prevailing winds from the east have filled in until one side here [indicating on map] is dry land and the other side is a salt lake. When the canal was made they were the same. Panama will escape any such obstruction, but whatever silt comes into the channel must be removed. All Chagres water that comes to the canal from Lake Gamboa will be clean and limpid; no water from the Gatun, Trinidad, Cano Quebrado, Gigante, and Gigantito will ever reach the canal. Those waters will be diverted. Here are those streams on the map.

(General Davis pointed out upon the map the streams referred to.)

Senator MORGAN. They are retained by dams that form lakes or—

General DAVIS. These three are retained by dams [indicating on

map]. The Trinidad does not come out into the canal at all; it discharges here [indicating]; it passes through the old Chagres Valley and goes through that diversion, which diversion is supposed to be crossed by the Gatun dam here [indicating], and so goes out to the sea here [indicating on map]. The Gatuncillo comes in here and takes the old French diversion channel, from which they excavated 2,500,000 cubic yards, and finds the sea here in Manzanilla Bay. That channel is open except in two short spaces; one is at Mindi and the other is opposite Monkey Hill. Those two obstructions remain, perhaps a half mile long in the aggregate, and have to be taken out. Then there will be a channel open from Gatun all the way to Manzanilla Bay 15 feet deep and 110 feet wide. Of course there is some dredging to be done.

Senator MORGAN. That channel is already dug?

General DAVIS. Except those two bulkheads.

Senator MORGAN. And paid for?

General DAVIS. And paid for. The remaining streams, some 22 in number, may possibly, a day or two at a time, at intervals of many years discharge over weirs from settling basins 29,000 second-feet of water. For three hundred days in the year those are mere brooks or are dry altogether and carry no considerable quantity of silt, for their beds are generally rocky and drain a densely vegetated terrane. It is impossible to conceive that the silt from all these little mountain brooks could exceed a half million yards annually. In other words, the annual expense for maintaining the channel depth as affected by silt from these little streams would not exceed \$150,000 a year.

Bearing upon that point I would like to mention what is a fact—that the Manchester Ship Canal, which is 36 miles long and parallels the river Mersey throughout its whole extent and impinges upon the river near Manchester, receives directly into its own prism a river called the Weaver, which drains the county of Cheshire to the south of Liverpool and Birkenhead. That one stream alone, which is as muddy a stream as I ever saw, full of silt, discharges in flood into the Manchester Canal 36,000 second-feet; it does it, it is doing it every year, and that water is taken in, and of course spilled out again over a weir into the Mersey. The river Mersey carries 58,000 second-feet. Those are facts that engineers have had to deal with and have solved. They are as well known as any facts in engineering. That river Weaver alone is a very large stream in time of flood, and very muddy indeed. When I saw it it looked to me as I have often seen the upper Missouri or the Rio Grande in Texas; it looked very much the same.

The entire expense of maintenance of the Suez, including the dredging referred to, reaches \$682,000 a year for 104 miles of canal, which is at the rate of \$6,560 per mile. Let it be assumed that an equal amount of work at Panama will cost \$10,000 a mile, and we have for the Panama Canal, say, \$500,000 per year for maintenance, independent of the tide locks, only partially used, and sluices. For this purpose \$100,000 a year should suffice, or \$600,000 a year for maintenance of channel depths and water-regulation lock and sluice. But it is not claimed that for a few years after the canal is opened to traffic the dredging will be so little as above stated, for the waves made by the steamers will at first to some extent scour and erode the banks and margins. This, however, will be a constantly reducing

item. The banks can be revetted by being pitched, as engineers use the phrase, with rock laid loosely—not as solid masonry—as the Suez Canal has been throughout, perhaps, three-quarters of its length. They speak of it as pitching the banks, so that the waves made by the passing steamers, instead of striking back into that sand and carrying out a lot and spilling it out into the canal again, will expend their force against this rock revetment, which is made out of common loose rock.

Senator MORGAN. A good deal of the rock is manufactured on the ground, is it not?

General DAVIS. No; at Suez they have plenty of rock.

Senator MORGAN. They have plenty of rock?

General DAVIS. Yes; there are plenty of specimens here in the city. Mr. Quellennec had a lot sent here. Nearly all the rock is near the Red Sea south of Ismailia; it is quite hard, quite dense sandstone.

For the first ten years after the canal is put into commission the expense for transit should not exceed \$500,000 annually. The Commission and the minority say that the maintenance of turn-out places would be a considerable expense, but no definite figure is assigned. There are 23 turn-out places or sidings at Suez, 10 of them being equipped with telegraph as signal stations. The cost of all is found to be about \$60,000 annually. Allowing for seven such stations at Panama, as suggested by the minority, and for higher unit charges than at Suez, these turn-outs, about which so much has been said, might cost \$15,000 a year.

There is a further expense at Suez for buildings and their repair, wharves, storehouses, quarters for employees, telegraph and light keepers' residences, light-houses, and waterworks. This is a matter of considerable importance, as the expenses for water supply alone reaches \$170,000 annually on an average. The cities of Port Said, Ismailia, and Suez have to be supplied with water brought from the Nile, and it must be pumped to requisite elevations, permitting a head adequate for distribution. At Panama there is a surplus of water, and the cost of supplying the operating staff and steamers will be very small, for it will be a gravity supply. The total expense at Suez for buildings of all kinds and water supply reaches \$470,000 a year. At Panama it should not exceed \$250,000, for at the time the canal is opened to traffic there will be many times as many buildings available as there is any use for.

The general administrative expenses, including legal and financial, on the Isthmus of Suez reaches \$98,000 yearly. I am supposing that at Panama it will be about the same. At Suez they spend annually \$36,000 for sanitary service and hospitals. This cost at Panama should not exceed \$100,000. The Suez general offices in Paris cost annually for salaries of all kinds, legal advice, financial management, etc., the large sum of \$226,000, but it should be remembered that the Suez Company is a rich corporation, with some 40 members composing the board of directors, and all receive salaries or allowances that reach a large total. As the central office for the Panama Canal should be a branch or part of the general fiscal administration of our Government there should be no charge at all under this head.

The CHAIRMAN. Is Paris the headquarters of the Suez Canal?

General DAVIS. Yes; I was in the office a few months ago when I was there in Paris.

Summarizing these remarks respecting expenses, we have the following for a canal of sea level:

Maintenance of the canal channel, including dredging and maintenance of slopes-----	\$500,000
Maintenance and operation of one lock-----	100,000
Transit service of all kinds-----	500,000
Buildings of all kinds and water supply-----	250,000
General expense on the Isthmus-----	100,000
Sanitation and hospitals on the Isthmus-----	100,000
Total-----	1,550,000

The maintenance of channels for a lock canal would probably cost less than for one at sea level, but the transit and other services would be about the same, but the expense for maintaining and operating the locks would be very much greater. If this expense were in proportion to the total lockage, then the addition for locks would probably reach \$800,000, but if it should reach the sum of \$159,000 for the tide lock, as suggested as possible by the minority, then the corresponding item for their six locks, each with 8 feet greater average lift, would mount up to \$1,382,000 yearly.

Applying one of the minority methods of calculating lock charges, based on a percentage of their cost, the total of the sea-level maintenance would reach \$1,609,000 and the lock estimate would reach \$2,732,000 yearly, a difference of over a million dollars a year.

For the lock canal the estimate of expense of operation and maintenance by same method of computation would stand about as follows:

Maintenance of channels, including dredging-----	\$400,000
Maintenance and repair of locks-----	800,000
Transit service-----	500,000
Buildings of all kinds, including water supply-----	250,000
General expense on the Isthmus-----	100,000
Sanitation and quarantine on the Isthmus-----	100,000
Total-----	2,150,000

It will be observed that nothing is included for the government of the Canal Zone in either estimate, as this is considered as one of the general expenses of the government. Its cost over and above local revenues may reach \$100,000 a year after the canal is opened and will be the same for either type. It should not exceed this figure. The cost last year for Zone government, not including sanitation and hospitals, was—

Executive office-----	\$49,910
Judiciary-----	17,888
Attorneys' office-----	2,082
Police department-----	71,303
Total-----	141,183

After the construction work stops, the population diminishes, and the conditions become normal the Zone government will become a small item of expense.

The Secretary goes on to say that either type of canal is vulnerable, the higher level the more so.

Considerations of safety and protection, fixedness and stability should have weight almost paramount with the determination of type.

All agree that the ideal canal is a wide and deep passage navigable

at all times, day or night, at all seasons, and in all weathers by all sorts and sizes of vessels.

The underwriters now ask no increased premium for insurance of vessels and cargoes traversing the Suez Canal over those customarily paid on ordinary marine risks by same vessels navigating the oceans. I think that is a very important consideration, gentlemen. If there is anything certain with respect to underwriting and insurance it is that the property or the life must pay the risk.

If, carrying a policy in an insurance company, I go to the Tropics for a trip or to live there I have to pay an increased premium, because they consider it as an increased risk. If a vessel proposes to navigate dangerous seas, specially dangerous ones, where there are few light-houses and not much known about the hydrography, where there are uncharted rocks and that sort of thing, those vessels have to pay an increased premium. Now, here is this Suez Canal, asserted to be tortuous, dangerous, contracted. Should we not find an expression of that in the underwriters' risks? It seems to me as palpable as anything can be. But it is not there. There is no charge over and above the usual charge for vessels for general navigation for traversing the Suez Canal. I think there is no extra charge at the Soo; there is none at Manchester; there is none at the Kiel Canal. According to the underwriters, canal navigation is counted to be attended with the same risks—no greater, no less.

Senator KNOX. How do you undertake to say, if a vessel is insured from Liverpool to Calcutta, that the risk in passing through the Suez Canal is not taken into consideration in charging for the insurance?

General DAVIS. Because the underwriters' charge is the same—

Senator KNOX. You mean either by going around—

General DAVIS. By going around by the Cape of Good Hope or through the canal; yes.

Ships of all sizes up to 560 feet long, 78 feet beam, and 27 feet draft are now passing regularly and uninterruptedly between the Mediterranean and the Red seas, and please take notice always that there are but 15 commercial vessels in existence and but some 20 or 30 war vessels existing with greater dimensions than the largest which has already passed Suez, and they have passed Suez in seventeen and one-half hours—that is to say, at the rate of 10 kilometers an hour, or $6\frac{1}{2}$ miles.

There are now but seven commercial vessels under the American flag, and no naval vessels, unless built within a year, that can not now easily make the $16\frac{1}{2}$ miles transit at Suez in a maximum of eighteen hours. Yet the minimum width is but 108 feet and the depth but 31 feet, and it has six curves of less radius than the smallest proposed by the majority of the Board, for Panama. When the widening and deepening now in progress at Suez are completed that canal will be twice as long, somewhat narrower, and much shallower than the proposed sea-level American canal which is realizable in ten or twelve years at a cost of \$250,000,000. It will afford convenient passage to the largest existing ship in a maximum of ten hours.

Can a canal possessing such characteristics of capacity, stability, and safety be justly compared with one whose very existence depends upon questionable earth dams, and these to permit the impounding of water to feed probably inadequate and actually obstructive locks

wherein the world's commerce and navies are to be lifted and lowered 170 feet, and all justified on the plea that the money cost will be a hundred millions or so less and the time of construction a very few years less than for the other which, for the present generation, will be a broad, open channel 150 to 200 feet wide, and for the next generation will be 300 feet wide, this increase to be attained at an added cost of perhaps \$50,000,000 to \$90,000,000?

We may well concede that if we could have a sea-level canal 300 or 400 feet wide it would be preferable, but the time and cost of constructing it are in effect prohibitory. The Secretary says this in effect and explains that it is the arguments of the minority, showing the results of the use of locks, the greater cost in time and money if these devices be excluded, and the dangers of the narrow and contracted canal prism that have caused him to change his opinion and to abandon the idea of the sea-level type as the best form.

It has been shown that the plans of the majority will insure to us a canal that is not dangerous, narrow, or contracted, for that remark does not apply to existing Suez, which is much longer, narrower, and shallower, and has more abrupt bends than the one proposed by the Board.

It is the opinion of very able engineers that the cost in time, which the Secretary puts before money, will be but slightly more for the channel at ocean level than for the one upheld 85 feet above the oceans by structures that have been pronounced to be questionable, vulnerable, and obstructive by many of the world's ablest engineers.

It is certain that the cost in money of the simple low-level channel, in which every existing and projected vessel would find convenient passage, will cost some tens of millions more than the complicated high-level structure, but the former will closely approach and ultimately result in the ideal, simple, natural waterway that the Secretary desires, while the latter will stand for the opposite until heroic measures are resorted to and the objectionable structures are removed, for the idea of transformability is eliminated by the minority.

They have said that if a sea-level canal is demanded let it be built at once; if the lock canal is built, let it be built to serve for a very long time.

Senator KITTREDGE. What have you in mind in the use of the words "heroic measures?"

General DAVIS. Cutting out these locks that will cost \$35,000,000, and putting them on the scrap heap.

Senator KITTREDGE. Would that involve delay or interference with traffic?

General DAVIS. Possibly not. I think it would be possible to do it without any great delay—possibly. That word, however, has a very far-reaching signification. I think the minority say somewhere—or some of the gentlemen of the minority say somewhere—about constructing a third lock while the other two are being enlarged or being changed. I think I have read that somewhere in the testimony.

The Spooner Act contemplates the use of borrowed money in meeting the cost of this great work, which is to serve the present and future generations. Our posterity will, as they should, redeem the obligations incurred, and they will be glad to do so if we show as the proceeds of the expenditure a monumental and complete work re-

quiring only moderate charges for maintenance, but if instead we should leave as the proceeds of our outlay, their inheritance, a structure that could only be transformed by its obliteration, then the financial aspect of the case to posterity would have a different meaning.

We now know and all agree that the best isthmian canal should have certain physical features. Nature has interposed no obstacles to their attainment which are insuperable if measured by the capacity of our engineers and contractors and national resources.

If the interest charge on the cost of the canal should reach six or seven millions and the tonnage and revenue should equal what Suez has, every canal bond could be redeemed in twenty-five years from the date of opening.

Can a programme that involves the making of this canal in ten or twelve years at a cost of \$250,000,000 be considered as justifying the observation that such conditions "are in effect prohibitory?"

Of course the Secretary, in saying that in substance, was speaking of a canal three or four hundred feet wide. I haven't any idea at all that that three or four hundred foot wide channel will be demanded at first. The canal will serve its purpose for many years with the dimensions proposed. It will enable our commercial vessels and our navies to pass and repass with perfect facility, a naval fleet of battle ships and cruisers half a mile apart can go through that canal in constant procession and average six or seven hours in the canal. Of course we will clear the canal for such a thing as that and have nothing to obstruct it. If we had at Panama to-day the present Suez Canal, you gentlemen would not be in session to-day or this Board of Engineers would not have been appointed. The American nation would be delighted to have even that channel—a channel 108 feet wide at its narrowest place.

Senator KNOX. What is the average width of the Suez Canal?

General DAVIS. Its minimum width is 108 feet and a fraction. The canal has been widened throughout a considerable part of its extent to 118 feet. The management is now at work enlarging it throughout its whole extent to make it nearly the same width as it now is in the turning out places. The width in those places is 147.6 feet. When all those turning out places shall be connected together, as they will be in a few years, then the canal will be 147.6 feet wide throughout, and it will be 31.4 feet deep. That is the ultimate depth to which they are looking at present. That will apply throughout the canal, except in two cases, and those are the two lakes. One is Timsah, where the canal, coming up from the Mediterranean enters the lake and then turns a right angle almost immediately on a curve with a radius of about 4,000 feet; it turns over 90° at that one spot, but the lake is deep, it is nearly deep enough to accommodate this proposed depth. They have dredged Lake Timsah, however, to get the full depth, and will have to dredge still more to get the 34 feet. That will not be difficult. There is a wide place—I suppose three or four thousand feet—and the next place is Bitter Lake, which is 9.38 miles long, and it has two changes of direction in it, but it is lake navigation. It has resulted from the filling up of this ancient basin by the salt water from the Mediterranean or Red Sea. I think that answers your question.

Senator KNOX. Yes; very fully.

General DAVIS. The approaches for the Suez entrance are wider. I have forgotten how much, but I think 500 feet. You might say they have two harbors—

Senator MORGAN. Are there any gates at either of the harbors?

General DAVIS. None at all; no, sir.

Senator MORGAN. The tide rises 7 feet, I believe.

General DAVIS. Between 7 and 8 feet.

Senator MORGAN. In the Mediterranean?

General DAVIS. No; in the Red Sea.

Senator MORGAN. How much in the Mediterranean?

General DAVIS. About 2 or 3 feet; something like the tide in Limon Bay. I arrived at Suez in the night, and at daylight in the morning there were half a dozen vessels anchored there ready to go on. A tug came along with a lighter and inquired whether we had an electric lighting apparatus on board. We had; it was a Government transport. They then took out of their lighter a square box 6 or 7 feet square and hoisted it to the bow and made it fast to the stem of the ship and about 5 or 6 feet above the water. In it was a man sitting on a stool. In front of him was a searchlight, and he was connected with the pilot on the bridge by signals. When our turn came we were given a number, and a large piece of canvas bearing the number in large black figures was hung over the ship on each side and we started into the canal, I should say about half a mile behind the ship ahead of us and half a mile behind us was another vessel, and in that way we went on through. The signals were made that we were coming. They knew our number at the telegraph stations. They could see it hanging over the side of the ship. Those big letters were 10 feet long. The manager, like a train dispatcher, directed that such a vessel come into a turning-out place and that ours could proceed, or that ours should go into a turning-out place and another vessel should pass, just as the case might be, and so they went on through, night and day.

Ninety-seven per cent of all the vessels traversing the Suez move just the same at night as in the daytime. There is no difference. They have such a system of electric lighting that there is no trouble. If a vessel comes without its own electric-light plant a little donkey engine is put on the deck, and that donkey engine moves a dynamo that supplies electricity, and when the ship gets to the end of the canal they take off the donkey engine and take off the dynamo, and the ship goes on her way. It is a perfectly simple thing.

Port Said, as you know, is a great coaling station. Almost every vessel takes coal there. At Suez, the Red Sea entrance, no coaling is done. And so with the Panama Canal, at Colon will be the coaling station. Panama will never be a coaling station. Coal is occasionally brought to Panama from Australia. Australia has a very good coal; indeed, much better than any Japanese coal, and much better than any of our own coal on the west coast. Some of the Australian coal rates pretty close to our Pocahontas coal—pretty near it. While I was at Panama there was a sailing vessel of 3,000 or 4,000 tons that came from Sidney with a cargo of coal for the Pacific Mail Steamship Company and lay there until her cargo was taken out by lighter, and then she went on her way.

INCREASING SIZE OF SHIPS.

A study of the Suez statistics throws much light upon this subject, for the average size of the vessels using this—the largest and most important maritime waterway in the world—is constantly growing, as may be seen from the following tabulation derived from Senate Document 20, Fifty-eighth Congress, first session:

Year.	Number of vessels.	Gross tonnage.	Net tonnage.	Mean net tonnage per vessel.	Per cent increase, 5-year periods.
1870.....	486	654,915	436,609	898	.....
1875.....	1,194	2,940,708	2,009,984	1,345	44.8
1880.....	2,026	4,344,519	3,057,421	1,509	11.5
1885.....	3,624	8,985,411	6,335,752	1,748	15.8
1890.....	3,389	9,749,129	6,890,094	2,038	16.3
1895.....	3,434	11,833,637	8,443,383	2,460	18.3
1900.....	3,441	13,699,237	9,738,152	2,830	17.9
1905.....	4,116	18,000,000	13,000,000	3,149	11.3

If increase in size of ships navigating this canal continues to augment at the same rate as for the last ten years, which is 28 per cent, then the average of Suez vessels in 1915 will be 4,225 tons, and for 1925 will be 5,524 tons.

But these statistics show something more, which is the increasing use of the canal by large ships.

In 1890 the number of vessels passing drawing more than 24.6 feet was 145, while in 1895 there were 228, or an increase in five years of 57 per cent. Again, in the same period the number passing in 1890 of over 25.3 feet draft was 44, while five years later it was 85, showing a gain of over 93 per cent in the size of the users. We thus see that the draft, and therefore the tonnage of the 24.6-foot vessels plying the Suez route, is increasing more than three times faster and the 25.3 vessels over five times faster than the average augmentation.

The reason why the Suez management are continually increasing the transit capacity of this waterway is thus made very manifest. These shrewd business men see plainly that their canal will become a second-class route unless it is enlarged. It requires no prophetic vision to see that the Suez Canal by 1950 will have a channel 40 feet deep, 300 feet wide, and with curves flattened to minimum radii of 10,000 feet, and can we doubt that Panama will have the same or greater dimensions? With equal prism and curvature, it will be much more convenient, because only half as long.

Now, as respects the financial side of Suez, and as concerns these figures of estimates, cost and maintenance, I would say that the data I have is derived from certain telegrams or from a certain telegraphic correspondence which was had in the month of March, the present month, with Mr. Quellennec, who was a member of this Board of Consulting Engineers, and who is the chief engineer of the Suez Canal. The telegraphic correspondence was conducted by Mr. Shonts, the chairman of the Commission, at my suggestion, and the answers are all sent to Mr. Shonts, and I have the originals in my hand. It is perhaps not necessary to read them all now, because I have tabulated what they say in a paper here which has been used by myself in preparing the arguments I have laid before you respecting maintenance. There is one item that has been referred to there, and which is a very

important one, as applying to the whole problem of the Panama Canal or any other interoceanic canal.

The CHAIRMAN. Are those telegrams long?

General DAVIS. Not very long.

The CHAIRMAN. Then they might go in the record.

General DAVIS. I will be glad to insert them.

The CHAIRMAN. There is no objection to it?

General DAVIS. No, sir. They were sent at my request by Mr. Shonts, who very courteously attended to the correspondence for me, and they have been sent to me, and I see no reason why they should not be printed as part of the record.

The telegrams referred to are as follows:

[Cablegram.]

ISTHMIAN CANAL AFFAIRS,
OFFICE OF ADMINISTRATION,
Washington, D. C., March 6, 1906.

QUELLENNEC,
Suez Canal, Paris:

General Davis would be greatly obliged for telegraphic information respecting Suez. Average costs last three years: First, permanent improvements, like widening, deepening, etc.; second, maintenance and operation, including repairs, renewals, dredging (total cubic meters); third, separate figures of cost, maintenance, and operation of all turn-outs, including services, equipment, repairs, giving number of turn-outs. Please reply collect.

SHONTS.

[Cablegram.]

PARIS, March 9—8. 57 a. m.

SHONTS, Washington:

Average annual expenses Suez Canal last three years: First, permanent improvements, 3,836,000 francs, including repairs; 2,620,000 cubic meters excavated in dry or by dredging. Second, maintenance, 3,410,000 francs, including repairs; 2,610,000 cubic meters dry and dredging operation, 3,117,000 francs, including repairs; renewals, 1,500,000 francs; buildings and waterworks maintenance and operation, including repairs, 850,000 francs. Please explain exact meaning of word "turn-outs."

QUELLENNEC.

[Cablegram.]

ISTHMIAN CANAL AFFAIRS,
OFFICE OF ADMINISTRATION,
Washington, D. C., March 9, 1906.

QUELLENNEC,
Suez Canal, Paris:

General Davis requests I wire you as follows:

"Turn-outs" mean sidings. Information Davis desires to answer criticisms that cost maintenance of siding for sea-level canal would

be large item. Your answer understood to mean that all permanent improvements, including excavations, cost three million eight hundred thirty-six thousand francs, and all maintenance, including dredging, etc., repairs, renewals, buildings, waterworks, and their operation reached total of eight million seven hundred seventy-seven thousand francs. How much, if any, part this last amount should be charged to permanent improvements?

SHONTS.

[Cablegram.]

PARIS, *March 13—9.10 a. m.*

SHONTS, *Washington:*

No particular expense of maintenance operation for turn-outs other than those respecting signal and telegraph stations with which ten turn-outs out of twenty-three are provided by such stations, operation of which costs annually about three hundred thousand francs, would be necessary even if there were no turn-outs. Turn-outs are no cause of expense neither for company nor for ships. Mooring of ships to let others pass entails but a delay of one hour and half on the whole time of passage of seventeen hours. Three million eight hundred thirty-six thousand francs is total cost of permanent improvements, including all kind of works, especially dredging in soft and rocky material, repairs, etc.; also engineering employees, etc. Eight million eight hundred seventy-seven thousand francs is total cost of maintenance and operation; namely, first, five million seven hundred sixty thousand francs for maintenance, including all kind of works, especially dredging, repairs, renewals, buildings, waterworks, and their operations, also engineering employees, etc.; second, three million one hundred seventeen thousand francs for operations of canal. In other words, for transit of ships, including pilots, telegraph, signals, launches, tugs, operations, and repairs of the same, measurement of ships, also marine officials, employees, etc. Besides these expenses there are, moreover, general expenses as follows: In Egypt, for representative of company, financial service, legal department, etc., four hundred ninety thousand francs, and for sanitary service one hundred eighty-eight thousand francs; at Paris, for direction financial service, legal and accounting department, one million one hundred thirty-four thousand francs. No part of cost of maintenance to be charged to permanent improvements, discrimination being already made in accounts.

QUELLENNEC.

[Telegram.]

ISTHMIAN CANAL AFFAIRS,
OFFICE OF ADMINISTRATION,
Washington, D. C., March 15, 1906.

QUELLENNEC, *Suez Canal, Paris:*

Cable names, dimensions, draft, three largest vessels passing Suez since nineteen four. Do largest ships move at night, and their average time transit? What was total number vessels with gross and net tonnage passing nineteen five.

SHONTS.

[Cablegram.]

PARIS, March 17—9.07 a. m.

SHORTS, Washington:

Grosser Kurfurst, 560 feet long, 62 broad, 26 feet 3 inches draft. *Good Hope*, 520 long, 78 broad, 26 feet 3. *Terrible*, 539 long, 72 broad, 26 feet 3. Largest vessels can move at night, their average time transit almost same as average transit all vessels, which was 17 hours 41 minutes in 1905. Total number vessels passed, 4,116; gross 18 million tons, net 13 millions.

QUELLENNEC.

I have a memorandum here, "Suez Canal, cost of enlargements, maintenance, and operation, average per annum for last three years—1903, 1904, and 1905."

Permanent improvements, which have been going on almost ever since the canal was opened, during these three years are described as respects their cost by this remark: Consisting of widening, deepening, and so forth, which includes 2,620,000 cubic meters—equal to 3,426,960 cubic yards—of excavations in earth and rock, excavations by dredges and other methods, including excavation of rock under water, engineering labor, and so forth; total expenditure per annum, 3,836,000 francs, equaling \$767,000.

Senator DRYDEN. That is not charged to the cost of the canal?

General DAVIS. No; although it is in our railroad parlance a betterment, and is a legitimate charge against the property, for of course the property is worth that much more. But here, instead of floating bonds and raising that much money on loans, for this work they take it out of their earnings, and that amount for the last three years was \$767,000 annually. That will be completed some day and then it will be a question of whether still further enlargements may not be necessary; but so far as we now know their programme only consists of connecting up these existing passing places and deepening the canal to 34.4 feet.

The next item is maintenance and operation, which includes dredging to maintain channel, amounting to 2,610,000 cubic meters, or 3,413,880 cubic yards. Also renewals, repairs, buildings, waterworks with their operation; also engineering employees, as follows:

Dredging, repairs and renewals, 3,410,000 francs, or \$682,000. Buildings and their repairs, including waterworks and maintenance, 2,350,000 francs, or \$470,000. Transit, which includes pilots, telegraph, telephone, lighting, launches, tugs, operation and repairs, measurement of ships, marine officials, 3,117,000 francs, or \$623,000. General expenses, including representatives near Egyptian Government, financial service, legal department in Egypt, 490,000 francs, or \$98,000. Sanitary service, 180,000 francs, or \$36,000. Expenses in Paris, financial, legal, and accounting, 1,134,000 francs, or \$226,800. For all expenses connected with betterments and maintenance and operation, administration, and so forth—

Senator MORGAN. Since the canal was first opened?

General DAVIS. No; the average for the last three years. The

total transit receipts for 1903—that is the last year for which I have any figures—were \$20,121,680.

Now, deduct all expenses as above, \$2,902,800, leaving a net total of \$17,218,880.

Now, the dividend paid last year on the Suez shares was 125 francs on a 500-franc share. That is, it was 25 per cent of the original capital invested. The canal pays for itself every four years. The 500-franc shares are now selling for 4,000 francs.

Senator KNOX. What is the capital now?

General DAVIS. The original capital was 400,000 shares at 500 francs.

Senator KNOX. What is the capital now?

General DAVIS. The original was 400,000 shares at 500 francs—that is, it was 40,000,000 dollars.

Senator KNOX. Is that the capital now?

General DAVIS. That has been increased. In the earlier years the enterprise had to struggle for existence; it had a lot of enemies, one of the strongest being the Government of Great Britain; they put every obstacle in the way, and that continued; it did not pay expenses at first. But pretty soon they saw it was going to be a winner, and then Disraeli, who was a wise man, looking ahead, without authority from Parliament, without authority from anybody, went in and bought out the Khedive's interest in the canal, which was 162,600 shares of that stock, which had been originally assigned to the Khedive. They paid a little less than £4,000,000 for those shares. Those shares to-day are worth £25,000,000, and can be sold for that at any time. When they had their troubles in the beginning and the rates were high, 10 francs a ton and 10 francs on a passenger, the shippers resisted those charges and made claim to the Government of England, represented what a tax this was imposed upon shipping, how the canal could be duplicated for \$40,000,000, and then they brought out a project to make a lock canal from Alexandria to Cairo and from there to the Red Sea. They proposed to lock up 20 or 30 or 40 feet. I have forgotten how much. That enterprise was agitated a good deal and it alarmed the Suez people.

A conference was had between the owners of the Suez Canal and the shippers, the English shippers principally, as to whether it could establish some kind of a compromise, which they did. It was then agreed that when the canal's shares should pay a certain dividend, which it looked as if they were going to pay then, because the trend was upward, after that a certain proportion of this dividend should be divided between the investors, that is, the property owners, and the shippers, and under that agreement the tolls have been reduced. The first reduction was to 9 francs, from 10 francs; the second reduction was to 8.5 francs, and then they were reduced to 8 francs. And it was provided in this convention that when the shares should pay 25 per cent dividend then the rate of division of this profit should be still larger in favor of the shippers. So that on the 1st of January last the tonnage charge on the Suez transit was 7.75 francs. Whether that applies to the passenger charge or not I don't know. I did not ask the question and did not find out, but they are cutting down the tonnage charge regularly and still they are paying for the canal every four years.

Senator DRYDEN. Did the Khedive pay anything for his shares?

General DAVIS. Oh, yes; he put up money for them.

Senator DRYDEN. The same as the others?

General DAVIS. Yes.

Senator ANKENY. Referring to these extensions and betterments on the Suez Canal, that you speak of, was there any suspension or delay of traffic while that was going on?

General DAVIS. Never for an hour.

Senator ANKENY. And might not a sea-level canal at Panama be widened, if the necessity ever arose, without disturbing traffic at all?

General DAVIS. Yes; just as certainly.

Senator MORGAN. There was a time during the siege of Alexandria when Great Britain stopped traffic through the Suez Canal.

General DAVIS. Oh, yes.

Senator MORGAN. Although Great Britain was a minority stockholder.

General DAVIS. Oh, yes; that was done. There has not been a day since the Suez Canal was opened that something has not been done to improve it—that is, improvement has been going on all the time.

Senator ANKENY. I mean these extensions or modifications of the curvatures, or whatever you call it, goes on without disturbance of traffic?

General DAVIS. Yes; without any disturbance. I think I saw six or seven dredges at work when I came through the canal, and that goes on all the time.

Senator ANKENY. In your estimates there of those cubic yards, what difference do you make between dry work and the wet work? The point I want to make is, Will not this wet work cost a great deal more money than we are prepared for?

General DAVIS. I am glad you asked that question, and I think I can give you some light on it. The Board of Engineers, considering that matter as applied to Panama and especially as applied to the sea-level proposition, agreed—the whole Board agreed to this—that these unit prices were, aggregated, 80 cents.

Senator ANKENY. Otherwise the work was below water?

General DAVIS. Yes. I was going to explain. Eighty cents for the above work plus 10, and \$1.25 below plus 10. The difference between 80 and 125, or 45, is supposed to be required for three purposes, and those three are the following: Water will get into these deep pits in the Culebra; evidently it will. It will come in from the sky; it will come in by trickling down the banks; it will not probably come in from below up, because, so far as we have discovered in the Culebra to-day with all our boring, we do not find any flowing water from the bottom; we do not find that there are any flowing springs in the bottom of the Culebra, and the only water that comes in there is the water trickling down from the banks.

Senator ANKENY. Practically surface water?

General DAVIS. Yes; seeping out of this soft material on the top and falling down into the canal; and then when they have a very big rain that water runs off the slopes and that runs into the canal. It was considered that pumps would be necessary to take that water out—a very simple proposition, for there is nothing cheaper than pumping water with those great centrifugal pumps, pumping out a 2-foot

stream, or, as Mr. Wallace said, he could pump the whole low water flow of the Chagres out of the bed at small expense if he wanted to. That is one of the items included in this addition of 45 to the 80 cents. Another is that you must haul that material uphill; that is to say, it has got to be deposited on levels higher than where it came from.

Senator ANKENY. It is mostly rock?

General DAVIS. Yes; but it has got to go up grade; it has to go up those 40 feet. Those are two reasons why that 45 was added. The third reason is because when you get down into this narrow channel your space is contracted and you haven't room to straighten as you would higher up. So those are the three reasons for a higher cost below + 10. They added 45 cents to the estimated cost of the work above. There is an explanation, I think, which may answer your question.

Senator ANKENY. It is very clear, sir.

General DAVIS. With respect to this statement which I read, there is only one other thing to which I wish to call attention for which authority is found in these telegrams. The company states that maintenance of turn-outs or sidings, of which there are 23—ten provided with telegraphic service—costs nothing additional, as the service would be required if there were no sidings, but actual expense for sidings is about \$60,000, which is included in cost of transit as above, and that is the figure which I use deducted from this experience that the seven sidings at Panama would cost \$15,000 a year. The important statement is also made that the whole time of detention in sidings due to the mooring of ships entails a total delay of one hour and a half on the whole time of passage, which averaged seventeen hours forty-one minutes per vessel in 1905. Largest vessels proceed at night and make same average time as other vessels. That is the official statement. Now, as respects some of the ships that have passed through the Suez Canal. I could make a very long list, but a short one will serve every purpose. Here are some data.

In 1894 the *Grosser Kurfurst*, 560.5 feet in length, with a beam of 62.33 feet and a draft of 26.18 feet and a tonnage of 13,000 gross tons, passed through that canal for the first time, and since then has been through it a half a dozen times.

Senator KITTREDGE. What time did she make in going through?

General DAVIS. The same as smaller vessels, I understand. The statement is that the large vessels go through just as readily as the small ones. This is what this official says:

"Largest vessels proceed at night and make same average time as other vessels."

I can not answer specifically as to this particular vessel, but she is on the regular trade—on the North German Lloyds Line to China—and she has been going through regularly.

Senator ANKENY. One hundred and five miles in seventeen hours?

General DAVIS. Yes; that is the average time for 1905.

The CHAIRMAN. Is that the largest ship that has passed through?

General DAVIS. No; there are several larger that have passed through. In 1904 the British ship *Terrible*, length 500 feet, beam 71 feet, draft 26.24 feet, tonnage 14,440 tons' displacement, a British armored cruiser, passed through the canal in the regular time. In 1902 the *Mikasa*, Japanese battle ship, which went through the Japa-

nese-Russian war and was finally sunk, 432 feet in length, 76 feet beam, 26.24 feet draft, and displacement of 15,200 tons. She was built at the Cramp shipyard, and on going out to be delivered passed out through Suez.

In 1902 the North German Lloyd ship *Barbarossa*, 526.24 feet in length, 60 feet beam, 25.59 feet draft, and 10,915 gross tons, passed through the canal, and has passed frequently since then. She is running in the North German Lloyd China service.

In 1904 the British protected cruiser *Victorious*, 390 feet in length, 75 feet beam, 25.59 feet draft, and 14,900 tons displacement, passed through the canal.

Senator ANKENY. Is that the one that collided with the *Camperdown*?

General DAVIS. No; I think that was the *Victoria* or the *Victory*. She was sunk.

Senator ANKENY. I was only getting the size in my mind.

General DAVIS. I think that is another boat, the *Victoria*. In 1905 the British armored cruiser *Good Hope*, 530 feet in length, 78 feet beam, 26.25 feet draft passed through the canal. In 1900 the American battle ship *Kentucky*, 376 feet long, 72½ feet beam, and 26 feet draft, also the British battle ship *Glory*, 418 feet long, 74 feet beam, and 26 feet draft, both passed. There are eight ships. I suppose I could extend that to 50, but that is enough to show that here these ships can pass and that the canal is adapted to vessels of that size. There is not a single American war vessel, unless she has been put in commission this year, that can not go through the Suez Canal to-day, not a single one, and there are only six vessels under the American flag that can not go through. They are the *Mongolia*, the *Manchuria*, the *Minnesota*, the *Dakota*, the *Kroonland*, the *Findland*. They have a little more length than any ship that has gone through Suez.

Senator KNOX. What point is this data intended to establish?

General DAVIS. The fact that this canal proposed by this Board, which is much longer than Suez, is not tortuous and dangerous and inconvenient; that is the purpose.

Senator KNOX. I didn't have the advantage of hearing you this morning.

General DAVIS. I am sorry you did not.

Senator KNOX. So am I, very sorry.

General DAVIS. I am reviewing, at the request of Secretary Taft, his letter transmitting this report. He asked me to say to you all that he would be glad to have me feel perfectly free. This sketch shows the shortest, steepest, most abrupt curve in the sea-level plan.

Senator KNOX. On what scale is that?

General DAVIS. One twelve-hundredth. That is a proportion scale. That doesn't mean very much, but that width of channel is 200 feet. It so happens that the four curves of 8,200 feet radius are all in that part of the canal which has a 200-foot bottom width. This represents the 200-foot bottom-width curve.

Senator MORGAN. What part of the canal?

General DAVIS. Somewhere near Obispo—yes; that one is right at Obispo [indicating]. That shows a ship in that canal 622 feet long, and that is drawn in plan on the same scale, and passing that ship you will see the lines of a smaller vessel, 360 feet long. It has been

said that these curves are too abrupt, too sharp, that they can not make the turn. I want to say something about that. A few years ago there met in the United States what is called the Deep Waterways Commission, which was appointed by our Government. Mr. Noble was one of the engineers that sat on that commission. They discussed a great many questions about depth of channels and locks and curves and prisms and so forth, and they laid down a general proposition that curves for a canal, if they were of 10,000 feet radius and of due proportion of width, would be satisfactory—that is, a curve of 10,000 feet radius was just as practicable as a straight canal: they didn't propose any widening for any curve that had a radius of more than 10,000 feet; but for curves of less than 10,000 feet radius they proposed to widen the canal at the bottom and at the top; they proposed to widen the curve if it had less than 10,000 feet radius, according to the formula, normal width $+(60 - .005 \text{ radius} = \text{curve width})$.

Senator MORGAN. You mean widen the canal?

General DAVIS. Yes; and in any particular curve. They laid down a formula for that calculation, and it is similar in character to the formula that Tincauzer gives and the principles on which the curve widths for the Kiel Canal are computed.

Senator MORGAN. Was he a member of the consulting board?

General DAVIS. Yes; he says in the curve with a radius of 1,000 to 2,500 meters an increase of breadth of bottom is made by the formula width, $+ 26 - \frac{R}{100}$ and therefore a curve of 1,000 meters must have an increase of breadth of bottom of 52.5 feet, and a curve of 2,500 meters must have an increase of breadth of bottom of 3.2 feet. In other words, when you get to 8,000 feet you have got a curve that so nearly approaches a straight line that the Germans who have studied this matter think that an increase of bottom width in those larger curves is unnecessary. The Suez people propose that a curve shall be of such an arc that when a ship is navigating it and her axis is on the center axis of the curve she shall have in front of her one and a half times her own length before the continued line would impinge against the banks. This curve is constructed on that basis for a ship 788 feet long. That curve satisfied the requirements of the Suez engineers who have studied that matter of corrections. That is to say, an 8,200-foot curve will give in front of that ship, before the prolongation of line of center axis will strike the bank, just about one and a half times her own length.

Senator MORGAN. That is considered to be enough?

General DAVIS. That is considered to be enough by, I think, all the world. The Deep Waterways people say when they have 10,000 feet, they don't concern themselves with its increase; a curve with a 10,000-foot radius, I mean, is so closely approaching a straight line that it can be treated as a straight line.

Now, there is certain physical data in regard to certain canals which I have compiled that is interesting, and I will call attention to a few phases of it and will leave this with you to be put in the record. This is existing and proposed canals.

General Davis read the following table, explaining it to the committee:

Existing and proposed canals.

	Units.	Panama, proposed sea level.	Kiel now.	Suez now.	Suez in future. ^a	Panama, lock.
Total length	Miles	49.85	^b 57.89	^b 94.76	94.76	49.72
Straight portion	do	30.18	^c 34.23	81.73	81.73	42.25
Curved portion	do	19.17	^c 23.66	13.03	13.03	7.46
Per cent in curves	Percent	38.8	40.9	13.4	13.04	15.00
Depth	Feet	40	29.52	31.2	34.4	^d 40 ^e 45
Least bottom width	do	150	72.17	108.26	147.63	200
Least width in curves	do	150	75.2	131	^f 160	^h 250
Least area cross section	Square feet.	8,160	4,444	ⁱ 5,813 6,025	7,741 8,144	8,160
Total curvature	Degrees	597	^c 832	467½	467½	637½
Curves	Number	19	26	15	15	24
These classified in radii:						
Over 14,000 feet	do	0	7	3	3	0
14,000 to 12,000 feet	do	2	0	0	0	0
12,000 to 10,000 feet	do	1	0	1	1	0
10,000 to 9,000 feet	do	12	10	2	4	0
9,000 to 8,000 feet	do	4	2	3	6	1
8,000 to 7,000 feet	do	0	0	3	0	0
7,000 to 6,000 feet	do	0	1	2	0	0
6,000 to 5,000 feet	do	0	1	0	0	7
5,000 to 4,000 feet	do	0	1	^j 1	1	3
4,000 to 3,000 feet	do	0	1	0	0	6
2,000 feet and less	do	0	0	0	0	7
Locks ^k	do	1	2	0	0	6
Locks, length usable	Feet	1,000	492	0	0	900
Locks, width usable	do	100	82	0	0	90

^a Enlargements at Suez will not be completed for several years.

^b Total length Suez 104.8 statute miles, of which 9.38 miles in lake; excavated channel, 94.76 miles.

^c Data respecting total curvature and curved mileage not given in authority consulted, but are estimated above at the average of Suez and Panama.

^d On lock sills.

^e Prisms.

^f About.

^g Least width future Suez curves, approximate.

^h Approximate.

Total length Kiel 60.89 statute miles, of which 3 miles in lake; excavated channel, 57.89 miles.

ⁱ Area cross section 5,813 square feet at low water and 6,025 square feet at high water.

^j This curve has only 4,266 feet radius, but its bottom width is 1,640 feet.

^k Tide lock maximum lift, 10½ feet. Will be in use only a part of the time.

Panama lock plan proposes lengths and bottom widths as follows:

Widths (feet).	Lengths (miles).
1,000	19.08
800	8.86
500	12.29
300	7.21
200	4.70
Locks, etc	2.58

Senator MORGAN. You have omitted entirely the canal at Nicaragua, which was reported three times by the same commission that reported in favor of the Panama lock canal.

Senator DRYDEN. That has not been built yet, has it?

Senator MORGAN. The Nicaragua Canal?

Senator DRYDEN. Yes.

Senator MORGAN. Nature has done more toward the building of it already than toward the building of the Panama Canal, and more than it ever will do toward the building of the Panama Canal.

But will you not please take that report of the Isthmian Canal Commission, called the Walker Commission, which report was made, you remember, three times, twice to the President and then again as alternative proposition to the lock canal at Panama—made three times by some commission—will you not take that and put the same data with reference to that canal upon this table that you have made out?

General DAVIS. I perhaps might not be able to do it to-night, because when I get home it will be dark; but I can do it in a day or two and add it, if that will answer.

Senator MORGAN. Yes; I would be very much obliged to you. I just want to preserve the history of the situation as we go along.

General DAVIS. There are only a few points more.

Senator ANKENY. What effect does the wind have upon the sea-level canal when vessels pass in there?

General DAVIS. Well, that is a question that will be hard to answer.

Senator ANKENY. You mention that the Germans at Kiel had to change their canal on account of the North Sea wind.

General DAVIS. No, on account of the effect of the wind on the tide, not on account of the wind on the ship; but the effect of the wind in backing up the water. You know the wind has a decided effect in backing up water.

Senator ANKENY. Yes.

General DAVIS. That is what I mean by that.

Senator ANKENY. We haven't considered that at all in any of this?

General DAVIS. No.

Senator ANKENY. Is it of no consequence?

General DAVIS. I would not say it is of no consequence. I think it is of some consequence. I think it is of consequence to any canal which is built.

Senator ANKENY. How about the effect if we had a flight of locks, three, for instance?

General DAVIS. I think it would have an effect, but it would not be serious for a lock system. They have no difficulty of entering the ships at the Soo lock in all kinds of weather, and I think they would do the same in a lock canal down here.

Senator ANKENY. You think that is not a factor in the business?

General DAVIS. I do not think it is, sir; I do not think it is a serious factor. I know the navigation goes on all the time at the Soo and they have at times a good deal of wind there. In some of the reports I have read about Suez, they discussed the winds at considerable length, and I have never heard—and I have read a good deal about it—that the winds interfere with navigation at Suez. I know they do not interfere with it at Kiel or Manchester. The Corinth Canal carries its shipping through that narrow gauge and they have no trouble there. I do not think the wind is anything serious to consider. Panama is generally, fortunately, free from winds; that is, free from violent winds; they have the trade winds.

There is one other matter which comes up in respect to the requirements of the lock canal for lockage water—water for lockage purposes. I made these notes to illustrate something in that line. Capacity of Gamboa and Gatun lakes to supply water for lockage

purposes. Summit level, 85 feet, or supposed to be that, in each case. I know there has been no plan prepared for a lock canal with a summit at 85 feet that contemplates the use of the Gamboa water, but this study supposes Gamboa Lake to be raised to 170 feet above the sea. If so, it would contain 39,175,000,000 cubic feet of water. When I say that I mean that that drainage basin has been surveyed just as accurately as any piece of land that any of you gentlemen own. It has been traversed in every twist and turn by the topographers, and they know just where the water level will go for each foot of that reservoir area.

Senator MORGAN. That is called "Gamboa Lake?"

General DAVIS. That is called the "Gamboa Lake." Estimates have been made by engineers assigned to this duty by Mr. Wallace, and their reports show the contents of that reservoir for every foot of elevation up to 200 feet. When I say that the Gamboa Lake would contain 39,000,000,000 cubic feet of water raised to 170 feet above sea, I base my statement on the report of these gentlemen, who have put that particular figure down against 170 as the cubical contents of that reservoir. I think no one will dispute the accuracy of those figures.

Now, suppose you wish to supply a lock canal from that reservoir and that the summit level was 85 feet. I am supposing that the reservoir would not be drawn down below 90 feet—that is, that there would be always 5 feet margin. So I am supposing that this same Gamboa Lake will never go below 90. The net quantity that would remain in that reservoir between 90 and 170 is 36,580,000,000 cubic feet. There is a certain low-water flow that is going on all the time, and I am supposing that the low water continues for three months. General Abbot, who has spent more time in calculations in regard to the hydrography of the Isthmus than anybody else, and whose work is of great merit, has stated, I think from thirteen years' observation, that the low-water flow during the three dry-season months falls down to 1,176 second-feet, or 9,145,000,000 cubic feet. That is coming in all the time, and adding that to the other figure, we get a total, then, as available of 45,725,000,000 cubic feet. But there are certain wastages and leakages by evaporation and percolation, and those are estimated at 748 second-feet, which deducted leaves a net available amount of 39,909,000,000 cubic feet of water.

The minority state that the level of the Gatun Lake is expected to fluctuate, the maximum level at the beginning of the dry season standing at 86 feet and falling at the end of that season to 82 feet, the fluctuation amounting to 4 feet.

The waters contained between the two levels, as stated above, plus the increment, due to the low-water flows of the river minus the losses by evaporation, leakage, infiltration, waste, and use for power purposes, as computed from the data given by the minority, page 75, is 10,498,000,000 cubic feet, which quantity is stated by them to be sufficient for 26 lockages per day for three months.

If the lock canal were so constructed as to obtain its water supply from the proposed Gamboa reservoir the water would be sufficient for 98 lockages per day for three months, so sufficing for a tonnage 3.7 times greater, and this without building the Alhajuela dam, as contemplated by the minority, as an ultimate proposition.

Simply as a question of storage, now, and as having nothing to do with locks, I have here some figures as to the storage capacity of Gamboa Lake. The two parts of the Board, the minority and the majority, treat the Chagres River from two standpoints, separate and distinct. The majority treat the Chagres River as a nuisance to be gotten rid of the best way we can. The minority treat it as entirely essential to their plan to supply water for lockage. If they could not have that river to supply the water, they would be in a bad way. If we did not have the river for the sea-level purposes, we would be in a very pleasant frame of mind. But it is there and it has got to be controlled.

Now, these figures are to show to what extent the devices of the majority will affect its control.

The capacity, computed from actual survey of the lake between level 80 and 170 feet above sea level is, in round numbers, 38,000,000,000 cubic feet. The mean or average gauged flow of the Chagres River at Gamboa, as determined by General Abbot, is 3,164 cubic feet per second. That total flow for one year would therefore be, in cubic feet, 365 by 24 by 60 by 3,164, or 99,779,904,000 cubic feet. The lake would therefore contain nearly one-third the entire year's flow, floods excluded, without any discharge.

The greatest flood in the Chagres that has been heard of in fifty years was the one in 1879, when the water rose about 36 feet at Gamboa at its maximum, remaining at the level for a very short time. General Abbot computes this flood as sending out an average of 65,250 cubic feet per second for a period of forty-eight hours. This quantity is 48 by 60 by 60 by 65,250, or 11,275,100,000 cubic feet. If meanwhile there had been discharging through the regulating works 15,000 cubic feet per second, the total for forty-eight hours would be 48 by 60 by 60 by 15,000, or 2,592,000,000 cubic feet and the part of the flood stored would be 8,683,100,000 cubic feet.

Supposing the level of the reservoir to be standing at 80 when the flood began, the flood would raise the water in the lake to about + 119 above sea, and there would still be a remaining capacity for more than four more floods of the same volume before reaching 170. But supposing there was no discharge through the regulating works while the flood continued and the whole should be drawn off at the rate of 15,000 second-feet (which, be it remembered, includes 3,164 second-feet representing the mean flow), and it would only take about ten days to spill this phenomenal flood.

It should not be forgotten that we have very complete data for the flow of the Chagres at Gamboa more than for any other station on the Isthmus. The data of actual gaugings available to the computer covered all the years from 1890 to 1904, both inclusive, and for every month of the one hundred and eighty save nine.

It may be deduced from the above that a dam with crest at 160 and water level at 150 might be adequate to meet the necessities of the case. Its storage capacity, between 80 and 150, would be nearly 24,000,000 cubic feet, or double the storage necessary to store two maximum floods.

Those are the principal matters, gentlemen, that I had prepared myself on. I have covered a good deal of ground, perhaps, or I have tried to.

Senator MORGAN. I suppose we have now gotten through with the main discussion—

Senator KITTREDGE. I should think this would be a good point to adjourn.

Senator MORGAN. I would suggest that if General Davis is through with his statement I would like to ask him one preliminary question, turning his attention to the government of the canal.

Is there any canal zone at Suez?

General DAVIS. Yes; there is a canal zone from the franchise which the Khedive gave to De Lesseps.

Senator MORGAN. What is the width?

General DAVIS. Very irregular in width. I could not tell you its width or shape, but in some places the area over which the Suez Company has fiscal control—they have no judicial control anywhere—

Senator MORGAN. That is what I wanted to get at.

General DAVIS. No; they have not.

Senator MORGAN. And they have no military control?

General DAVIS. No.

Senator MORGAN. And have no other control except such as is furnished by the laws of Egypt?

General DAVIS. Yes; that is all.

Senator MORGAN. That is all I wanted to get at as a preliminary. I wanted to ask you whether the area of the country through which this canal runs is at all populated.

General DAVIS. There are three cities—Port Said, with fifty or sixty thousand; Ismailia, with about 8,000, and the so-called "city of Suez," on the Red Sea, with three or four thousand inhabitants. There are no other inhabitants along the line of the canal; it is a desert. The water is brought from the Nile to supply these cities and also to supply a few gardens and a few little parks in those towns.

Senator MORGAN. I merely wanted to get at the question of how it was governed and by whom.

General DAVIS. There are several questions that are analogous to this type of canal, and I have made a list of some. I have made these titles: Earthquakes, Military questions affecting type, Submerged land, Malicious destruction of the canal possible, Time or method of construction, Panama Railroad management. Those are a few of the headings.

Senator MORGAN. We will go over those before we close your examination. We will take them up in such order as the members of the committee may prefer.

The CHAIRMAN. Are you through with the gentleman for this evening?

Senator MORGAN. Yes.

(Thereupon, at 4.20 o'clock, the committee adjourned until tomorrow, Friday, March 30, 1906, at 10.30 o'clock a. m.)

INVESTIGATION OF PANAMA CANAL MATTERS. 2216A

Commercial vessels over 12,000 gross tonnage.

[Principally from Lloyd's Register, 1905-6.]

Name.	Gross tonnage.	Dimensions.		Molded depth.	Maximum draft.	Speed.	Flag.
		Length.	Breadth.				
		<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Knots.</i>	
Mauritania (unfinished)...	33,200	787.6	88.0	60.6	a 37.0	24	British.
Lusitania (unfinished)....	33,200	787.6	88.0	60.6	a 37.0	24	Do.
Kaiserin A. Vic. (unfinished).	b 25,000	727.6	77.6	54.0	c 37.0	.....	German.
Adriatic (unfinished).....	b 25,000	727.6	75.6	49.0	c 37.0	.....	British.
Baltic.....	23,876	709.2	75.6	52.6	a 37.3	17	Do.
Amerika.....	22,250	670.5	74.6	48.4	a 34.67	.....	German.
Cedric.....	21,035	680.9	75.3	44.1	a 36.93	17	British.
Celtic.....	20,904	680.9	75.3	44.1	a 36.77	17	Do.
Minnesota.....	20,718	622.0	73.5	41.5	c 30.58	14½	American.
Dakota.....	20,714	622.0	73.5	41.5	c 30.58	14½	Do.
Carmania.....	19,594	650.0	72.2	40.2	c 29.62	19	British.
Caronia.....	19,594	650.0	72.2	40.2	c 29.62	19	Do.
Kaiser W. II.....	19,361	684.3	72.3	40.2	a 30.0	20	German.
Oceanic.....	17,274	685.7	68.8	44.5	a 35.7	20	British.
Deutschland.....	16,502	660.9	67.5	40.3	c 29.7	20	German.
Arabic.....	15,801	600.7	66.5	47.6	c 33.0	16	British.
La Provence.....	15,000	607.0	61.7	38.0	c 28.0	.....	French.
Republie.....	15,378	570.0	67.8	a 24.0	.....	16	British.
Kron Prinz Wm.....	14,908	637.3	66.3	39.3	a 30.0	20	German.
Kaiser W. der G.....	14,349	626.7	66.0	39.0	a 29.25	20	Do.
Saxonia.....	14,281	580.0	64.2	38.4	c 28.3	16	British.
Ivernia.....	14,058	582.0	64.9	37.8	c 28.25	16	Do.
Mongolia.....	13,689	600.0	65.3	31.1	c 22.92	16	American.
Manchuria.....	13,689	600.0	65.3	31.1	c 22.92	16	Do.
Carpathia.....	13,564	540.0	64.5	37.4	c 27.56	15	British.
Cretic.....	13,518	582.0	60.3	38.3	c 28.22	16	Do.
Patricia.....	13,424	560.3	62.3	37.1	c 27.84	13½	German.
Minnehaha.....	13,403	600.7	65.5	39.5	c 29.11	16	British.
Minneapolis.....	13,401	600.7	65.5	39.7	c 29.26	16	Do.
Minnetonka.....	13,398	600.7	65.5	39.7	c 29.26	16	Do.
Pennsylvania.....	13,333	558.4	62.2	30.0	c 22.11	13½	German.
Pretoria.....	13,234	561.0	62.3	37.9	c 27.93	13½	Do.
Graf Waldersee.....	13,193	561.2	62.2	37.7	c 27.78	13½	Do.
Grosser Kurfurst.....	13,182	560.6	62.3	35.9	a 26.18	13½	Do.
Cymric.....	13,096	585.5	64.3	37.9	a 31.05	15	British.
Kenilworth Castle.....	12,975	570.2	64.7	38.7	c 28.33	17½	Do.
Amadale Castle.....	12,973	570.1	64.5	39.0	c 28.74	17½	Do.
Lucania.....	12,962	601.0	65.2	37.8	c 28.25	22	Do.
Campania.....	12,950	601.0	65.2	37.8	c 28.25	22	Do.
Walmer Castle.....	12,546	570.5	64.4	38.6	c 28.44	17½	Do.
Finnland.....	12,760	560.0	60.2	38.4	c 28.3	16	American.
Kronland.....	12,760	560.0	60.2	38.4	c 28.3	16	Do.
Suevic.....	12,500	550.2	63.3	39.9	c 29.4	13	British.
Runic.....	12,482	550.2	63.3	39.9	c 29.4	13	Do.
Saxon.....	12,395	570.5	64.4	38.6	c 28.44	17½	Do.
Noordam.....	12,531	550.3	62.3	34.0	c 25.06	15	Dutch.
Potsdam.....	12,532	550.0	62.0	34.6	c 25.5	15	Do.
Rijndam.....	12,527	550.8	62.3	34.6	c 25.50	15	Do.
Kaiser Friedrich.....	12,480	581.7	63.7	37.9	c 27.93	.....	German.
Moltke.....	12,335	525.6	62.3	35.6	c 26.23	16½	Do.
Blucher.....	12,334	525.6	62.3	35.6	c 26.23	16½	Do.
Ionie.....	12,232	500.3	63.3	39.0	c 28.74	13	British.
Barbarossa.....	10,915	526.3	60.0	34.6	a 25.59	15½	German.
Athenic.....	12,284	500.3	63.3	39.0	c 28.74	13	British.
Canopic.....	12,097	578.3	59.3	35.8	c 26.38	16	Do.

a Reported draft as stated by owners.

b Approximately.

c Estimated draft as computed by ratio of molded depth to draft in case of 12 vessels whose draft is stated above; molded depth $\times 0.737$ = draft.

d Depth as stated in Lloyd's, probably an error.

Grosser Kurfurst and Barbarossa have passed Suez Canal.

2216B INVESTIGATION OF PANAMA CANAL MATTERS.

Naval vessels of 14,000 tons and over.

[Displacement Clowes' Naval Pocket Book, 1905.]

Name.	Flag.	Displacement.	Dimensions.			
			Length.	Beam.	Draft.	
		Tons.	Feet.	Feet.	Feet.	
Lord Nelson.....	British	16,500	410	79.5	27	
Agamemnon.....	do	16,500	410	79.5	27	
Africa.....	do	16,350	453.75	78	26.75	
Britannia.....	do	16,350	453.75	78	26.75	
Hibernia.....	do	16,350	453.75	78	26.75	
New Zealand.....	do	16,350	453.75	78	26.75	
Hindustan.....	do	16,350	453.75	78	26.75	
King Edward.....	do	16,350	453.75	78	26.75	
Dominion.....	do	16,350	453.75	78	26.75	
Commonwealth.....	do	16,350	453.75	78	26.75	
Queen.....	do	15,000	400	75	27.75	
Prince Wales.....	do	15,000	400	75	27.75	
London.....	do	15,000	400	75	27.75	
Bulwark.....	do	15,000	400	75	27.75	
Venerable.....	do	15,000	400	75	27.75	
Formidable.....	do	15,000	430	75	27.75	
Irresistible.....	do	15,000	430	75	27.75	
Implacable.....	do	15,000	430	75	27.75	
Cæsar.....	do	14,900	413	75	27.50	
Hannibal.....	do	14,900	413	75	27.50	
Illustrious.....	do	14,900	413	75	27.50	
Jupiter.....	do	14,900	413	75	27.50	
Mars.....	do	14,900	413	75	27.50	
Prince George.....	do	14,900	413	75	27.50	
Victorious.....	do	14,900	413	75	27.50	
Magnificent.....	do	14,900	413	75	27.50	
Majestic.....	do	14,900	413	75	27.50	
Duncan.....	do	14,000	429	75.5	26.50	
Cornwallis.....	do	14,000	429	75.5	26.5	
Exmouth.....	do	14,000	429	75.5	26.5	
Russell.....	do	14,000	429	75.5	26.5	
Albemarle.....	do	14,000	429	75.5	26.5	
Montagu.....	do	14,000	429	75.5	26.5	
Empress India.....	do	14,150	380	75	27.5	
Ramilles.....	do	14,150	380	75	27.5	
Repulse.....	do	14,150	380	75	27.5	
Resolution.....	do	14,150	380	75	27.5	
Revenge.....	do	14,150	380	75	27.5	
Royal Oak.....	do	14,150	380	75	27.5	
Royal Sovereign.....	do	14,150	380	75	27.5	
Hood.....	do	14,150	380	75	27	
Minotaur.....	do	14,600	490	74.6	26	
Defence.....	do	14,600	490	74.6	26	
Shannon.....	do	14,600	490	75.6	25	
Drake.....	do	14,100	529.5	71	26	
King Alfred.....	do	14,100	529.5	71	26	
Leviathan.....	do	14,100	529.5	71	26	
Good Hope ^b	do	14,100	529.5	71	26	
Terrible ^b	do	14,400	538	71	30	
Powerful.....	do	14,400	538	71	30	
République.....	French	14,865	439	79.5	27.2	
Patrie.....	do	14,865	439	79.5	27.2	
Justice.....	do	14,865	439	79.5	27.2	
Démocratie.....	do	14,865	439	79.5	27.2	
Vérité.....	do	14,865	439	79.5	27.2	
Sardegna.....	Italian	14,800	411	76.75	28.5	
Lepanto.....	do	15,900	400.5	74	31.2	
Italia.....	do	16,654	400.5	74	31.2	
Katori.....	Japanese	16,600	455	78.2	26.66	
Kashimi.....	do	15,200	432	76	27.25	
Mikasa.....	do	15,200	432	76	27.25	
Awahi.....	do	15,200	425.5	75.5	27.2	
Shikishima.....	do	16,000	425.5	75.5	27.2	
Imp. Pavel I.....	Russian	16,000	430	80	26	
And. Pervosvanni.....	do	16,000	430	80	26	
New Hampshire.....	American	17,650	456.3	76.8	26.75	
Kansas.....	do	17,650	456.3	76.66	26.75	
Minnesota.....	do	17,650	456.3	76.66	26.75	
Vermont.....	do	17,650	456.3	76.66	26.75	
Connecticut.....	do	17,650	456.3	76.83	26.75	
Louisiana.....	do	17,650	456.3	76.83	26.75	
Virginia.....	do	15,300	435	76.83	26	
Rhode Island.....	do	15,300	435	76.83	26	
New Jersey.....	do	15,300	435	76.83	26	
Nebraska.....	do	15,300	435	76.83	26	
Georgia.....	do	15,300	435	76.83	26	

^a Maximum draft.^b Has passed through the Suez Canal.

INVESTIGATION OF PANAMA CANAL MATTERS. 2216c

Naval vessels of 14,000 tons and over—Continued.

Name.	Flag.	Displace- ment.	Dimensions.		
			Length.	Beam.	Draft.
		<i>Tons.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
Kentucky ^a	American	11,540	376	72.08	23.5
North Carolina.....	do	14,500	502	70	b 26.5
Montana.....	do	14,500	502	70	b 26.5
Tennessee.....	do	15,950	504.5	72.9	b 27.2
Washington.....	do	15,950	504.5	72.9	b 27.2
California.....	do	14,000	502	70	b 26.5
South Dakota.....	do	14,000	502	70	b 26.5

^a Kentucky passed Suez Canal in 1902.

^b Maximum draft.

ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Friday, March 30, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Hopkins, Knox, Ankeny, Morgan, Taliaferro, and Simmons.

STATEMENT OF MAJ. GEN. GEORGE W. DAVIS, U. S. ARMY (RETIRED)—Continued.

The CHAIRMAN. General, we are ready now to have you proceed, if you have any further statements to make.

Senator KITTREDGE. General, do you think this work should be constructed by contract or directly by the Government?

General DAVIS. I feel that there is no doubt that the interests of the United States will lie in having this work done by contract throughout. I think there is no doubt of it.

Senator KITTREDGE. In what manner would you suggest that the contract be made, or propositions for a contract?

General DAVIS. I would of course first have careful specifications of the work made. I think that Mr. Stevens has stated in his testimony before your committee that he can prepare specifications for the canal in a month. I believe I have read such a statement of his; and I would have those specifications prepared. I should offer the work to contractors on the basis of payment by unit quantity, our engineers to determine what those unit quantities are. The specifications should state how far away the material is to be carried—that is to say, some maximum haul, perhaps, or else there should be a condition requiring that the material excavated should be so deposited away from the line of the canal as to insure no possibility of its return to the line of the canal, and that to be settled by the dicta of the Government's engineers.

If locks are to be built, they ought to be described in as much detail as will enable the contractor to tell what unit price to bid on yards of cement, cubic feet, or yards of cut granite for copings, etc., what price to bid per pound for wrought iron or steel used in the lock gates when they are finally incorporated, etc.; and all the

machinery should be so described that they can give unit estimates on it. The matter of machinery is not so important, however; that can be deferred a long time.

The specifications should recite where the material taken from these dredged entrance channels is to be deposited. If jetties are to be built, the specifications should state to what size they are to be carried. Then I would allow the contractor entire freedom of scope as to where he should get that material and as to where he should get his labor. I should tie him up with no conditions whatever, and I should turn over the Panama Railroad to him as a tool for him to use absolutely. Of course I should get a complete list of all the fixed and movable property, appraise its value when it was turned over to him, and under his contract require certain conditions to be fulfilled with respect to the return of that property when his contract should be finished. Of course a large part of it would be worn out; but that would be expected.

Senator KNOX. Would that contemplate abandoning the commercial use of the railroad?

General DAVIS. No, sir; I think not. I should delegate to this contractor the privileges which the United States enjoys by virtue of its ownership of the Panama Railroad in respect to the earnings it may secure, and should also transfer to him the obligations which the United States has assumed and put him in the light of a man holding a franchise—

Senator KNOX. A temporary lessee, as it were?

General DAVIS. Yes, sir; a temporary lessee; and require him to do that commercial work. I should treat the commercial work as a transfer proposition pure and simple, just as Dodd's Express or Westcott's Express, in New York City, is managed.

Senator ANKENY. Do you contemplate one large contract or numerous small ones?

General DAVIS. One large contract.

Senator ANKENY. For the whole?

General DAVIS. For everything; and I should require a bond of ten or fifteen or twenty millions, or fifty millions.

Senator ANKENY. Whatever is necessary?

General DAVIS. Yes, sir; there will be no trouble in obtaining a perfectly satisfactory bond of that sort.

Senator MORGAN. But in that case there would be no competitors?

General DAVIS. Oh, yes, Senator; I think there would be. I believe that if you should offer that work to contract on that basis, you would have half a dozen bids from this country and Europe. I am confident of that.

Senator MORGAN. But our people probably would not consent, General Davis, to have a European contractor work out that job.

General DAVIS. I do not think it is desirable; but European contractors are building railroads in the United States. A European chief engineer is putting the tunnel under the East River in New York for the Pennsylvania Railroad to-day.

Senator MORGAN. But they are not Government works?

General DAVIS. No, sir.

Senator DRYDEN. Will you state what advantage you think there will be in having it all let by one contract rather than by a number?

General DAVIS. You would have one man to deal with; you would have no issues, no questions, no controversies between several contractors. I can see that there would be a good many conflicts between the smaller contractors if there are several of them. It has been suggested by some that there might be a dozen principal contracts, but if one man is building locks, he wants to get material for those locks; he wants to get some of it from abroad; he wants to get some of it from the Isthmus, and he wants to hire labor. He needs to use in the construction of those locks some of the very same material that will be taken out of the Culebra or some other excavation. If he is working for one principal contractor, that can all be arranged with the greatest facility between those two men, while if he is contracting directly with the Government, and the man that is excavating the Culebra is working for the Government, and the man that is building the jetties in the harbor of Colon is working directly under the Government, all correspondence and all negotiations between those men will have to be carried through this third party, the engineer representing the Government. I think it would facilitate the work greatly to eliminate that "loop."

Senator DRYDEN. I agree with you in that view. I suppose your anticipation would be that the main contractor would sublet contracts?

General DAVIS. Oh, of course; of course.

Senator DRYDEN. But the great difference would be that there would be one supreme authority in the contract?

General DAVIS. That is it; that is the way I feel about it.

Senator DRYDEN. Who could actually dictate the relations between these subcontractors and what their responsibilities and duties were?

General DAVIS. I see no difficulty in meeting the point that Senator Morgan raises by inviting bids from American citizens only and specifying that all material used should be of American origin. There is no objection to that, if the Congress wishes to put in that condition.

Senator MORGAN. I am not to be understood as advocating that; but at the same time I am quite sure that it will create a great deal of controversy in the United States.

The CHAIRMAN. There are contractors in this country, Senator, who could carry on that work just as well as those abroad.

Senator DRYDEN. Of course General Davis contemplates that this main contract would be open for bids to all contractors who have the means and facilities and the ability to take and carry on a contract of that kind, so that I think it could hardly be said that it was so limited that it was not thrown open to responsible and fair competition?

General DAVIS. Yes, sir. I think you will get three or four bids from American contractors for the whole work from responsible people—two or three, anyhow. I am confident you will get two or three.

The CHAIRMAN. Do you understand that there are contractors abroad that would have greater facilities for carrying on this work than those in this country?

General DAVIS. I should say generally, yes, because I know that in Europe the habit is to do these works by contract in a very large way. For example, there is the contracting firm of Pearson & Company that is just now finishing the Tehuantepec Railroad. That is a matter of some fifteen or twenty million dollars. They are carrying on that work and are just completing it now. Then take the Argentine works, the harbors in the Argentine Republic (I refer to Buenos Ayres), a work, the cost of which has run up to fifty or sixty million dollars; it has all been done by contract; the engineering has been done by contract.

The Assouan dam is a peculiar case. The Egyptian government did not have the money to build the Assouan dam. They borrowed up to the limit of their authorization to borrow. They were tied up; they could not get any more credit, and they wanted the Assouan dam made. They said to a contractor by the name of Coode, I think—I am not quite certain—"Will you build the Assouan dam and furnish the money yourself, and take your pay in annuities?" He said: "Certainly; I am perfectly ready to do that." He went to work, made a contract with the Egyptian government, approved by Lord Cromer, and proceeded to build the Assouan dam, and built it inside of the time that he contracted for. He did his own engineering and turned over the completed work; and he is to receive \$200,000 a year for a certain number of years—I have forgotten the number—and that pays for the dam.

Senator KNOX. That is more in the nature of a concession than a contract?

General DAVIS. Rather more so; but still he did the work. He took the risks.

The CHAIRMAN. Where does he get labor—right where he is constructing the dam?

General DAVIS. Oh, he got the labor in Egypt—the fellaheen of Egypt.

The CHAIRMAN. But what would be the result in Panama, as to labor there?

General DAVIS. I think the contractor ought to have freedom to go where he pleases to get his labor.

The CHAIRMAN. To go wherever he saw fit, and to get any kind of labor?

General DAVIS. Our trade unions here do not want to go to Panama to work. Even our negroes in the South are not begging for the privilege of going down there to work. They are not asking for it or even offering to go.

The CHAIRMAN. I think the trade unions have made some suggestions as to the work at Panama.

General DAVIS. I have read in the papers that they have.

The CHAIRMAN. As to the hours, and the kind of labor that should be employed.

General DAVIS. I have read that they have; yes, sir.

The CHAIRMAN. But your idea would be, General, I think, to throw the work open to any kind of labor?

General DAVIS. I think the contractor ought to have the privilege of getting his labor where he pleases.

The CHAIRMAN. And to fix the hours, too?

General DAVIS. I think he ought to fix his own hours of work. I remember here last winter, indeed in this city, to have made a visit to the bridge that is being built over Rock Creek, and I asked the engineer officer if the eight-hour law bothered him at all. He said no; that that law applied to their own employees that were paid from the Government pay roll, but that the contractor paid no attention to it. I said: "Why, I do not understand that. I do not understand how he has escaped conformity with the law." He said: "The law happens to be so framed that no penalty is provided for its infraction, and the contractor knows that, and he proceeds without any regard to it."

That is in the District of Columbia. I am not vouching for the accuracy of the statement; I only know that I was so told by the engineer in charge.

Senator TALIAFERRO. Do you think, General Davis, that if this work is done by contract the railroad should be turned over to the contractor?

General DAVIS. I do not see how you can help it. I do not see how you can help it.

Senator ANKENY. You would not disturb the commercial business?

General DAVIS. Oh, no, sir; no, sir.

Senator ANKENY. The contractor would regulate his own work to the railroad business?

General DAVIS. I think if he was a wise contractor he would take very good care to increase it. He would seek to increase that commercial work if he was a wise man.

Senator TALIAFERRO. It would be your idea, however, that the Government should fix the commercial rates?

General DAVIS. Oh, of course they should fix an upset price which should not be exceeded for the transfer of freight across the Isthmus.

Senator TALIAFERRO. So as not to discourage that business?

General DAVIS. So as not to discourage it; no, sir; and then compel him to handle it and put him under penalties for failure to do so.

Senator TALIAFERRO. And give him the profits?

General DAVIS. And give him the profits—oh, yes. He ought to have the reward if he incurs the responsibility.

Senator TALIAFERRO. Ordinarily, of course, the Government would be entitled to something for the use of its property.

General DAVIS. Speaking of other engineering works, the jetty at Colombo is one of the greatest pieces of engineering in the world. There is scarcely any exceeding it in importance. You have there a jetty built of solid masonry that has to meet the whole northeast monsoon of the Indian Ocean. I have seen waves dashing against that jetty and rising a hundred feet into the air, with a noise like the booming of a cannon, when they pounded away at that jetty. That was all built by a contracting engineer, Sir John Coode & Co., of England.

The contracting engineers of Europe have had a scope much greater than our contractors in America have had. The subway contract is the only large one that I now recall over here.

Senator TALIAFERRO. General, a good deal has been said about the lands that would be submerged by these lakes—the one at Gatun, under the lock system, and the other at Bohio, is it?

General DAVIS. At Gamboa.

Senator TALIAFERRO. At Gamboa, under the sea-level system. Will you give us your views as to that?

General DAVIS. I stated them to the Board; I gave them all the data I had. I collected it while I was there as governor of the Zone. I cast up the quantity of land that we received by transfer from the French Company. I found the number of parcels and the claimed area, and then I computed the area of the Zone as represented by those very irregular lines. I found out what area of land the Panama Railroad claimed to own. I found out what particular parcels of land were known to be vested in the State at the time we took over the Zone. With that data I made up a tabulation of what looked to me like the way the equities lay—the way they were situated in respect to land ownership; and it is all printed in the report of the Board of Consulting Engineers. That data is all laid down there in the minutes of one of their meetings, I think. I can not recall just at this moment the amount; but, speaking generally, the claimed ownership of the United States to land received by purchase from the New French Canal Company and land received by virtue of its ownership of the stock of the Panama Railroad—there are those two categories—and the lands that it received by cession from the Republic of Panama, together make up, I think, about three-quarters of all the land in the Zone, so far as I could arrive at it by the best calculation I could make, in the making of which I had to do almost all of it as guessing. In other words, the data do not exist for making an accurate schedule of land ownership within the Canal Zone.

Senator ANKENY. Have they no records of deeds or titles, General?

General DAVIS. They have a record or deed of this sort: "Beginning at such a place on the bay, and running to a tree on top of a hill."

Senator ANKENY. Not any specific surveys, then?

General DAVIS. Oh, no; nothing specific—"thence to the corner of a fence somewhere else." They have no metes and bounds in the sense that the term should convey. But then I found that when we undertook to take possession of any particular piece of land and make use of it in some way, like constructing houses upon it, or something of that kind, I was very often tangled up with claimants of adverse possession, or of some right by prescription, or something of that kind; or else it would be asserted that this man had owned this land for so many generations, and the deeds had been burned up, and he did not know where they were, but it was a common, notorious fact that he owned that land, and that when that other person sold it to the French Company he sold something he did not own. And so the titles to land, and certainly the boundaries to the parcels of land in the Zone, are in a state of utmost confusion.

Senator ANKENY. Digressing a little, would it not be well, if we proceed with that work, to name a date in which all of these titles must be recorded or settled in some way, as we would do in Wyoming, for instance?

General DAVIS. I think the precedent that we followed in California is a good one.

Senator ANKENY. Yes.

General DAVIS. That of having a court of land titles, or whatever you may call it. You know the name better than I.

Senator ANKENY. Yes; I know about that.

General DAVIS. We did the same thing in the Philippines. There there is a "court of land" something; I do not recall the title.

Senator ANKENY. But ought there not to be some date on which these conflicting titles should be settled in some way, and the ownership at a certain date, for instance, established?

General DAVIS. The proposition of Governor Magoon seems to me an admirable one, and that is to announce by public advertisement.

Senator ANKENY. What did you do down there about this thing; anything?

General DAVIS. Oh, I could do nothing except to refer them to the courts and let them litigate, and they never got anywhere in the courts. That is to say, they never can reach any conclusion. Our courts had only been established in the Zone a very short time at the time that I refer to.

Senator ANKENY. Would it be possible for us to say that on such a date as your judgment dictated the titles to these lands must be recorded, or they would belong to our Government after that date? Could we do that?

General DAVIS. Oh, yes, sir; I think so.

Senator MORGAN. We can do any kind of robbery down there we want to. [Laughter.]

Senator ANKENY. That is not robbery, sir.

Senator MORGAN. There is no restraint on us that I know of.

Senator ANKENY. It is simply an adjustment of titles.

General DAVIS. I think there would be no trouble in adjusting those titles, but I think you would have to give public notice that every man can come in and make a "show down" of his pretension to title to this land and provide that this court shall then proceed to adjudicate as between A and B and C, and perhaps one of those will be the Government of the United States.

The CHAIRMAN. They will prove title by their neighbors down there, will they not?

General DAVIS. There will be all kinds of proof; there will be the tallest kind of swearing there.

The CHAIRMAN. Where are we going to swear, General? Have we any opportunity to do anything of that kind?

General DAVIS. We stand in about the same position that the Government always stands when it is a plaintiff in a suit. I have been connected with land condemnations here in the United States when I saw the United States, as I thought, robbed roundly; but there was no help for it.

The CHAIRMAN. I think we had better have a board appointed, then, and put the General at the head of it.

General DAVIS. We took the land by the right of eminent domain, and had appraisers, and all that; but the appraised value was something tremendous.

Senator ANKENY. Pardon me there just one moment. In that adjustment would you not first contemplate an official survey of our boundaries, for instance?

General DAVIS. I do not think our rectangular survey would be applicable there at all. There ought to be a survey of the whole Zone, of course.

Senator ANKENY. Meanderings and all?

General DAVIS. It ought to be a topographical survey, and then let everybody claim where he pretends his lines run.

Senator ANKENY. I do not see how you can proceed without it.

General DAVIS. It will have to be done, sir. It will have to be done, and it will unquestionably be done.

Senator KITTREDGE. In the event that a lock canal should be constructed at Panama, have you any opinion to express regarding the amount that it will cost us to pay for submerged lands?

General DAVIS. I stated before the Consulting Board that it was impossible for me to make an approximation to the figure that we would have to pay for the land. If I could answer the question by stating what I believe the land to be worth, I should say that the sum to be paid would not be large. But unfortunately the Government of the United States very seldom gets land by paying what it is worth. It is usual for the United States to pay three or four times the price of the land, and these Panamans understand the art of getting money out of their own Government or out of our Government or any government as well as the most skillful of our people do. I think we will have to pay very high prices for a great deal of this almost worthless land. I think it is inevitable that we will.

Senator MORGAN. Well, General, all of the questions about the condemnation of lands in the Zone and outside of the Zone are arranged pretty specifically by the Hay-Varilla treaty?

General DAVIS. Yes, sir; there is a plan provided.

Senator MORGAN. And commissioners have been appointed by both Governments to take up those cases and decide them?

General DAVIS. Yes, sir.

Senator MORGAN. What is the use of any intervention by the courts?

General DAVIS. I will try to answer that question by relating my own experience in attempting to carry out the orders of the Government.

It was decided by the Isthmian Canal Commission, and concurred in by the Secretary of War, that a certain parcel of ground adjoining land owned by the United States near the city of Panama was necessary for canal purposes. I was instructed, as governor, to take the preliminary steps and see if a purchase of that land could be effected. I had an interview with the owner and endeavored to get him to name a price. It was some time before he was willing to name any figure, but at last he did. The land in question was principally lying on the slopes of Ancon Hill; one-third of it, or perhaps one-half of it, was available for building purposes. The other portion was a steep declivity, reaching to the height of 630 feet, and useless for almost every purpose—that is, I mean to say these upper slopes.

At last the owner named a price which was, to my mind, about ten times the value of the land. I found out what he had paid for the land a few years before, and he was asking about ten times as much as he had paid a few years before. That is, he had bought it after the old French Canal Company had started on its boom; and yet he wanted ten times as much as he had paid.

I reported these facts. They told me to proceed under the treaty. I asked the Secretary of War to name two men to represent the United States in that board of arbitration. It is not called a board of arbitration, but a board of land appraisement. Notice was sent to the Panama Government to name two persons to represent it, proceeding always under the treaty. They did so. These four men met in the Isthmus of Panama and discussed the question of this land and its value. The Hay-Bunau-Varilla treaty provided for a fifth member of the board in case the four members could not agree. Fortunately it was not necessary to go as far as that; and the four men finally reached an agreement that we should pay for these thirty-odd acres of land, including one-third in a precipice, \$41,700 gold. That price was referred to Washington. The Commission and the War Department felt that they had pursued the legally required steps in arriving at the price, and that there was no likelihood of getting a lower price by resorting to the method provided in the treaty of selecting a referee, which referee had to be agreed upon by the two Governments; and as the time was passing, authority was given to me to proceed and accept the appraised price, inform the owner of the appraisement, and, if he was willing to accept it, let him proceed to make his deeds. He was notified; he made his deeds; they were recorded; the title passed to the United States, and the auditing department paid the money.

Senator MORGAN. What was the necessity for having such a high-priced piece of land there?

General DAVIS. It was deemed to be essential for the requirements of the canal. It was exactly on the edge of this very large hospital that the French company had built. There was not a square rod of land in that neighborhood where quarters could be erected for the Government officers.

Senator KNOX. How much did you pay for it more than it was really worth?

General DAVIS. I think about four or five times what it was worth. I think it was four or five times what the man could have gotten for it on the ground by private sale.

Senator DRYDEN. Were the appraisers on the part of the United States Government Americans?

General DAVIS. Yes, sir; both of them were Americans. Both of them were persons selected by the Secretary of War, and men of high character.

Senator KNOX. General, when you say that we paid four or five times as much as it was worth, what is the basis of your personal judgment as to the value?

General DAVIS. The prices at which transfers are made now and then of similar lands under similar conditions.

Senator KNOX. In the same locality?

General DAVIS. Not exactly the same locality, but close by.

Senator DRYDEN. Coming back to the cost of purchasing all these lands that are to be submerged, it has been stated by one witness that, in his judgment, it would probably cost the Government about \$18,000,000 to buy those lands. Have you read that?

General DAVIS. Yes, I know; I think I have read that, and I believe another man said twenty-five millions.

Senator DRYDEN. Yes.

General DAVIS. I do not think that the price would go up to any such figure; I think it will be a large figure, though I do not think it would go up to that amount. I can not see the basis for a figure so high as that.

Senator ANKENY. Approximately, in your opinion, what would it be?

General DAVIS. Oh, well, I am afraid to approximate it; but I think it will be some millions of dollars. I feel confident of that. I think the minority of the Commission stated some figures, and based some of their calculations on what the Panama Railroad paid per acre for similar land fifty-odd years ago. I do not think that that precedent has any value at all.

Senator KNOX. What is the character of these submerged areas—that is, the ones that it is proposed to submerge?

General DAVIS. Oh, they are low. Of course, all of the lands that will be submerged are necessarily lowlands.

Senator KNOX. Are they occupied?

General DAVIS. Only on the margins of the streams. Ninety-nine per cent of all the cultivated land in the Canal Zone is devoted to one crop, and that is bananas.

Senator KNOX. Then your fear that it will cost us a very large sum of money is not based upon the intrinsic value of the lands, but on the probability that we will be overreached in the proceedings to acquire it?

General DAVIS. Yes, sir; I think so. I do not think that the banana lands by themselves have an actual value, at the very outside, of \$100 an acre; and I think \$50 would be a high price.

Senator KNOX. Then, in its last analysis, it comes to this—that we will pay more than they are worth; that we are not able to take care of ourselves in the transaction.

General DAVIS. Precisely.

Senator TALIAFERRO. Is it not a fact, General, that all those lands have increased very largely in value since this Government bought that property?

General DAVIS. Oh, yes, sir; oh, yes, sir. There is no doubt that they have.

Senator TALIAFERRO. Because they feel that the canal is assured?

General DAVIS. Yes, sir.

Senator MORGAN. The treaty, though, positively forbids any addition to the price in consequence of the building of the canal, or the prospect of building it.

Senator DRYDEN. But that increase is largely speculative—almost wholly speculative; is it not, General?

General DAVIS. Oh, yes.

Senator DRYDEN. There has been no valid increase by reason of the owners being better able to get their crops into market that would justify the prices they are asking? There is nothing of that kind, is there?

General DAVIS. There are plenty of Americans down there now getting options on this land for the very purpose of finally unloading it on the Government.

Senator SIMMONS. General, are the Americans to whom you refer paying very high prices for those options?

General DAVIS. No; not a very high price. I do not think that it has gone on to any very large extent, but I know it was going on while I was there.

Senator SIMMONS. What are the exact provisions of this treaty with reference to this condemnation proceeding? You say the Government has two representatives. The Republic of Panama has two, I assume?

General DAVIS. Yes, sir.

Senator SIMMONS. And then how does the treaty provide for the umpire?

General DAVIS. The Hay-Bunau-Varilla treaty is as you state it with respect to that matter—that if the Government wishes to acquire any private lands they shall be appraised by a board consisting of two of its own delegates, the Panama Government shall be represented on the board by two other delegates of its own selection, and if these four can agree, well and good. If they can not agree, then a fifth man is to be called in and appointed by the two Governments. These four men are not to select him, but the two governments are to be informed that the four commissioners have failed to agree, and then the two governments are to enter into diplomatic negotiations or correspondence and finally decide who this fifth man shall be, and he then pronounces his decision.

Senator SIMMONS. While in the case that you recited a few minutes ago the Government seems to have been overreached in this arbitration under that system of appraisement, is there any reason why it should, as a general proposition, suffer? There is an equal chance for the other Government?

General DAVIS. Oh, certainly.

Senator SIMMONS. It participates in the selection of the umpire?

General DAVIS. Yes, sir; but one government is to pay the money and the other one has not any money to pay.

Senator SIMMONS. Your idea is that the sympathy would be with the Panamans?

General DAVIS. The one government, which has only a vicarious interest in it, would hardly feel as keenly the result as the one that had to respond.

Senator KNOX. General, leaving out the cities of Panama and Colon, is it likely that the whole Republic is worth \$18,000,000?

General DAVIS. Oh, I—

Senator KNOX. As a real-estate transaction, I mean?

General DAVIS. I should say that the answer to that would be "yes."

The CHAIRMAN. Do you not think that you might throw in Colon in that deal, General?

General DAVIS. Well, nearly all of Colon belongs to the Government now.

The CHAIRMAN. I understand that. I think it is a very poor asset, however.

Senator KITTREDGE. General, last evening you read a little memorandum of topics that you had in mind to speak about.

General DAVIS. I simply thought it possible that you might wish to question me on two or three of these other subjects. One was the Panama Railroad, which you have already alluded to; the military question as affecting the canal; earthquakes—

Senator KITTREDGE. I would like to hear you, very briefly, about the military features of the situation.

General DAVIS. I have read what those who have preceded me have said on that subject. I must say that what General Ernst said here a few days ago impressed me as having considerable force.

It seems to me that there are but two bases on which we can proceed with respect to the military aspects of the Panama Canal. One is to neutralize it, just exactly as the Suez Canal was neutralized in the Constantinople conference of 1888, and make it a neutral channel of communication entirely, as that was declared to be. I know that in 1882 the English Government closed it for a day or two, but in 1888 the Constantinople conference agreed that that canal should be neutralized forever.

Now, under that neutrality condition, which had been in effect before, this incident occurred: In 1870, when the Franco-Prussian war was going on, a French vessel and a German vessel both chanced to be in Lake Timsah at the same moment of time, and a state of war existed between the two nations. The date on which this occurred was the birthday of the Emperor of the French. The Frenchmen dressed ship, manned the yards, and fired a national salute, and the Germans did the same thing, in honor of the same event; and that was exactly while the Franco-German war was proceeding. So that in that canal there was entire friendship, entire harmony, entire peace. That is what is meant by neutralization.

The other basis of procedure, it seems to me, is that the United States, as proprietor, as owner, as possessor of all that sovereignty, can give in the territory—shall say to all the world, "This canal is open to you, except in time of war, and in time of war we will shut it in your face if we please. We will close it if we want to."

We must take one of those two positions, it seems to me, with respect to the canal. Now, in the treaty by which the Clayton-Bulwer treaty was abrogated—I refer now to the Hay-Pauncefote treaty, the date of which I can not just now remember; of course it is the second one that was negotiated, the first having failed, but the second was ratified by both Governments—

Senator KITTREDGE. That was ratified four years ago last December, General.

General DAVIS. I had forgotten the date. Now, in that treaty there is a section that copies almost verbatim out of the Constantinople conference the whole provision about neutralization. That is all brought into this Hay-Pauncefote treaty; and these two Governments, the Government of Great Britain and that of the United States, have solemnly agreed upon neutralization of that canal by that treaty. Other powers are not a party to it, so far as I know; I presume they are not; but we must proceed on one of those bases, it seems to me—either shut the door in the face of anybody we please at any time we please, or else say, "It is open to you always."

What that may lead to I know—many dilemmas, many difficulties—but the situation is a difficult one.

Senator MORGAN. Now, General, is not this the proper interpretation of all of that doctrine: That the United States Government, being the owner of the canal, not in partnership with anybody else in its ownership or in its management, reserves to itself the right to re-

fuse to permit its enemy to use it in hostilities directed against the United States?

General DAVIS. That is rational; that is quite rational.

Senator MORGAN. And that is as far as we go in that proposition. But as between other belligerents the canal is neutral, and all the nations subscribe to the doctrine that it shall be kept neutral. Now, that would not apply to a war between Panama, for instance, and Cuba. They can get into war; they are small. Panama would have the right, as I understand the Hay-Varilla treaty and all the surrounding situation, to insist that Cuba should not be permitted to use that canal in belligerent operations against her; and if Cuba wanted to attack the city of Panama her vessels could not be permitted to go through the canal and get out into the bay and then make an attack upon Panama.

General DAVIS. No; that is forbidden by the Constantinople conference at Suez, which provides that the canal shall not be made the base of any military operations.

Senator MORGAN. Any at all?

General DAVIS. Any at all by anybody. That is declared firmly.

Senator MORGAN. Of course that means that it shall not be made the base of military operations amongst governments that did not own it. There was no government ownership of that canal at Suez?

General DAVIS. No, sir.

Senator MORGAN. And here there is a distinct ownership by the United States.

General DAVIS. I would have no difficulty in reconciling this with the principles you state, Senator, if it had not been that we have negotiated the Hay-Pauncefote treaty, in which we have declared that the principles of the Constantinople conference shall apply as between the United States and Great Britain.

Senator MORGAN. That means in like cases, but not as against the owner of the canal?

General DAVIS. The exception is not stated in the language of the law.

Senator MORGAN. I know that; but there are a great many things that are not stated in diplomatic parlance or language that are clearly reserved. That is my view of it. I did not care about participating in the expression of any opinion, but as the subject was up I thought I would state these things.

General DAVIS. I realize, gentlemen, that this is a subject that it is perhaps improper that I should discuss at all, for it is a very broad one and a very large one, and it is—

Senator MORGAN. The probability is that as long as this Government holds together it will never be discussed, because no nation would attempt to attack that canal while we held it, unless it was as a part of a general war against us.

Has any other gentleman any questions he wants to ask?

General DAVIS. There is just one other subject that I wanted to speak of, and that is the matter of earthquakes. There has been a good deal said here by various people about earthquakes. Now, I have read all that exists that I could get hold of respecting that phenomenon of nature which has been felt on the Isthmus of Panama; and that there is a danger from earthquakes there is as certain as

that we live. I presume the danger is difficult to appraise or to estimate; but that there is such a danger is unquestionable. I believe that danger exists everywhere. We did not think that it existed in 1884 at Charleston, S. C.; but we knew in 1886 that it did. And if an earthquake like the one that occurred at Charleston in 1886 (or was it 1887?) should occur at Panama, it would do harm. If such an earthquake as the Charleston earthquake occurred in Washington, it would perhaps demolish this building or injure it very much. It would unquestionably throw down the Washington Monument.

So this danger of earthquakes is one that you can not evade; it can not be foreseen; it can not be appraised. It exists, but I do not think that it has any particular signification. Its influence would be felt most seriously on structures and less on ditches, I think.

That is about all I can say about that subject.

Senator MORGAN. But, General, if you took a cube of basalt 8 or 10 miles long and 125 feet thick and 200 feet wide out of the backbone of that mountain, you might weaken it so that the earthquake would affect it very seriously, might you not?

General DAVIS. That is to say, that it would disturb the equilibrium of the mass?

Senator MORGAN. Yes.

General DAVIS. That is quite so; but here are hills and peaks rising up on the Isthmus of Panama all about you, with slopes quite as steep as are proposed for Culebra; and there they stand, and have stood for centuries. They are quite as steep, and they are all around. The Culebra Hill itself has precipitous slopes, and many, many of those hills have slopes that are—well, I know that Ancon Hill has a slope of 60°; I have measured it. That is right overhanging the city of Panama; and yet it stands there, and it is grassed over. It is true that such slopes stand on the Isthmus. They are earth slopes, too.

Senator MORGAN. Nevertheless, taking out such a cube of basalt as I have mentioned leading right through the backbone of the Isthmus would necessarily weaken it?

General DAVIS. But we would not have any slope, Senator, as abrupt as some of those that nature has left there.

Senator MORGAN. I am not speaking of the slope; I am talking about the weakening of the structure—the backbone.

General DAVIS. The strength of the slope, or the strength of an embankment, or of a declivity, or of a mass, is entirely proportionate to its slope or to its base. Now, if through natural causes—

Senator MORGAN. I am not speaking of tumbling down the top earth into the ditch. I am speaking about the effect of taking out that cube of basalt rock that binds the Isthmus. When an earthquake comes there, its effect will be very much more felt—more sensibly—than if the cube was there untouched?

General DAVIS. But how would that apply to the practicability of the canal, Senator?

Senator MORGAN. Why, if the canal was running through there I should think that there would be a great deal of dislocation.

General DAVIS. In other words, that the canal would be closed up? You are thinking about that?

Senator MORGAN. Yes.

General DAVIS. Then these banks are unstable; then that could not occur unless these banks are weak, unless this material would collapse, unless these side walls would slump off. The canal could not be closed unless something of that kind happened, could it? You could scarcely conceive that the floor would rise up.

Senator MORGAN. A lock or a sea gate would be almost certain to go under under those conditions.

General DAVIS. If we had a tidal wave on the coast there, yes; if it rolled in in a wave 60 feet high, as it did once on the coast of Peru, say, or as it did at the island of Santa Cruz in the West Indies.

Senator MORGAN. Have you any information in regard to the earthquake that occurred on the 31st of January of the present year?

General DAVIS. I only know of it by noticing a brief communication in the newspaper. I have not seen any extended account of it; no, sir.

Senator MORGAN. It seems that that incident has gotten out of public observation; I do not know how.

General DAVIS. It seems to have been some kind of a seismic wave that stretched across from Buenaventura on the Pacific side to Cartagena on the northern coast of South America.

Senator MORGAN. It passed clear across the neck?

General DAVIS. It appears so, from the account.

Senator MORGAN. It broke the cables on both sides?

General DAVIS. Well, cables are breaking all the time. We are having no end of trouble with cables. The cable breaks when we know nothing about what the cause was. I know that in the Philippines I had no end of trouble with the breaking of cables.

Senator MORGAN. But this broke one of these cables—the one on the Pacific side—in four places.

General DAVIS. I do not think that the fact that a cable is broken proves that it is done by earthquakes entirely.

Senator MORGAN. At all events, it is a recent disturbance of an important character?

General DAVIS. Yes, sir; yes, sir.

Senator MORGAN. And a tidal wave swept in there which, according to this newspaper account, pretty much destroyed Buenaventura.

General DAVIS. I do not know of the details, Senator. I have no information other than four or five lines that I read in the newspaper account.

Senator MORGAN. I mentioned that in support of your proposition that earthquakes have occurred and are just as apt to occur again as not.

General DAVIS. Yes.

Senator MORGAN. They have to be taken into the calculation in several respects.

General DAVIS. They have to be taken into the calculation everywhere. You know very well, Senator, how in California twenty-five or thirty years ago, in the city of San Francisco, it was considered that it was not safe to build any house more than two or three stories high, and that out of wood. That was the proposition on which they commenced to build San Francisco. It was believed that earthquakes would throw down everything that was in San Francisco unless it was of wood and of low altitude. They have gotten over that. They

are now building houses in San Francisco 10 and 12 stories high, out of steel and masonry, by the score. They are going up there all around and all about. They are watching the effect of vibrations on those buildings, and nobody seems to be concerned about their future. Of course we do not know what the future will bring forth.

Senator MORGAN. I do not think that this committee, in acting upon as serious a proposition as this, can fail to be concerned about anything that may occur rationally and that has occurred heretofore that will have an important bearing upon the success of this canal. We must be concerned with it, whether people are building skyscrapers or not; we must look at the facts.

I want to ask you something about the contour of the country between Bohio and Gamboa. It is the valley of the Chagres River running in there all the way across?

General DAVIS. Yes, sir.

Senator MORGAN. After you leave Bohio, going toward Gamboa, what would be about the narrowest width of that valley of the Chagres?

General DAVIS. Oh, the valley is of rather irregular, but still not extraordinarily irregular, widths. From Bohio to Gamboa I should say that the valley proper—I mean by that the portion of it that is not more than 30 or 40 or 50 feet above the sea—was a mile wide, in a general way.

Senator MORGAN. A mile wide?

General DAVIS. About a mile wide.

Senator MORGAN. That would be a fair average?

General DAVIS. Of course it is narrower and broader in parts.

Senator MORGAN. Yes; but that would be a fair average for the whole way up. Now, the Chagres River between Gamboa and Bohio meanders through this valley and cuts its way in frequent serpentine bends?

General DAVIS. Oh, yes; in many sharp bends.

Senator MORGAN. They are very numerous. Where does the railroad, as it stands to-day, cross the Chagres River?

General DAVIS. It crosses it at a place called Barbacoas, which is about a third of the way above Bohio, between Bohio and Gamboa.

Senator MORGAN. Above Bohio?

General DAVIS. Above Bohio.

Senator MORGAN. About a third of the distance?

General DAVIS. About a third, as I remember.

Senator MORGAN. That is the only crossing?

General DAVIS. That is the only place where the railroad crosses the Chagres.

Senator MORGAN. It used to cross at more than one place, but those have been taken out, I believe?

General DAVIS. No, sir; no; it never crossed but at one place that I ever heard of.

Senator MORGAN. And that was at Barbacoas?

General DAVIS. Barbacoas; yes.

Senator MORGAN. About what is the width of the valley at that railroad crossing?

General DAVIS. The railroad crosses at a place where the bank on the right-hand side approaches closely to the river channel by a high,

rocky bluff; a point juts out, and the line of rails coming up from Colon passes around this point and then shoots directly across the stream, so that one of the abutments of the present Barbacoas Bridge is this rocky promontory. Then there are, if I remember right, five spans in that bridge, each about 90 feet wide. It is a bridge made of iron and constructed in 1854 or 1855. It is the same identical bridge that is there now; and the whole width of the channel of the river at that point, I should say, was about, from memory—it is easy enough to tell by the larger maps—400 feet, I should think, the channel proper. I should hardly say the channel, but the river bed is about 400 feet wide at high water; the water width is perhaps 150 feet.

Senator MORGAN. The maps that I have seen of that region of the country, particularly those of the engineers, indicate that ridges of lower elevation lie somewhat parallel to the Culebra elevation, between that and the coastal plain going toward the Bay of Limon.

General DAVIS. The one impression upon your mind when you get upon a high point and look out over the Isthmus is of a multitude of peaks, of hills. You just see a multitude of small hills rising all about you. If you get upon a high point and look out, you can count 20 anywhere—I mean up in the interior.

Senator MORGAN. Still these are arranged in ridges, are they not?

General DAVIS. Scarcely so, because if you study the drainage of the country you can always tell how the land lies by the way the rivers run.

Senator MORGAN. Yes.

General DAVIS. The rivers lie in the bottom of these valleys, wherever they are placed.

Senator MORGAN. The point I wanted to get at was whether or not the ridges, if they are ridges, or these series of hills, run parallel to the Chagres River on both sides or whether they run across it?

General DAVIS. Oh, there is no system, sir, that could be designated, or that I could describe at all events, except that of a great mass of detached elevations, with hills going back from the river, constantly rising, rising, rising as you recede from the river, but the crest line always ragged and serrated and broken; and as these foothills come toward the river they consist of isolated peaks and little hog-backs and smaller and larger acclivities. I could not describe it as a system of ridges, Senator.

Senator MORGAN. Do the Culebra and Emperador Heights constitute a ridge?

General DAVIS. That is the continental divide, and it is the rising of the land at that point. I think 335 feet was the original elevation of the lowest point of the Culebra.

Senator MORGAN. Yes.

General DAVIS. On the left-hand side of the Culebra is the Culebra Hill itself, which gave name to the place. "Culebra" means "rattlesnake."

Senator MORGAN. Yes.

General DAVIS. And that hill rises to about 700 or 800 feet in height. I have been on the top of it. Almost opposite to it is another hill where Mr. Buneau-Varilla built a house, in which he lived. That hill has about 500 or 550 feet elevation, and the canal prism is excavated right

between those two hills. Going farther east is Emperador Hill, which is an isolated knoll that rises right up out of this general, approximately level country that extends from Obispo to Paraiso.

Senator MORGAN. The Emperador is on the east of the canal?

General DAVIS. The Emperador is on the west.

Senator MORGAN. On the west of the canal?

General DAVIS. The Emperador Hill and the village are on the west.

Senator MORGAN. And the Culebra is on the east?

General DAVIS. And the Culebra Hill is on the east side, sir.

Senator MORGAN. That is all right. Now, just at Gamboa, where the Chagres River makes a turn around a mountain, I suppose—

General DAVIS. Well, a hill; I do not think the word "mountain" is applicable.

Senator MORGAN. A hill?

General DAVIS. Yes.

Senator MORGAN. It has an elevation of 300 or 400 feet?

General DAVIS. Yes; something like that.

Senator MORGAN. In the turn of the Chagres River around that point, does this valley narrow or widen, looking across from any part of it?

General DAVIS. The Chagres Valley from Bohio up to Gamboa, and still above that point, preserves about the same general regimen; but as you go higher up the Chagres, as you go up half way to Alhajuella, the banks are closing in all the time and narrowing up; and when you reach Alhajuella, the gorge is very narrow. I have been above Alhajuella.

Senator MORGAN. Taking the point of this ridge around which the Chagres River bends, and looking across it in any direction from that point, would there be a valley a mile wide?

General DAVIS. Up and down?

Senator MORGAN. Across.

General DAVIS. Transversely?

Senator MORGAN. Transversely.

General DAVIS. The Obispo comes in at that point.

Senator MORGAN. I know it does.

General DAVIS. And it follows the lowest ground there is in its course.

Senator MORGAN. Take the two valleys together, if you please—the Obispo Valley and the Chagres Valley, or the Gamboa dam site in the Chagres Valley—if you get on this point of rising so that you can see across the country there is a valley there a mile wide?

General DAVIS. The Obispo or the valley of the Chagres, which?

Senator MORGAN. Both.

General DAVIS. Oh, the valley of the Chagres is approximately a mile wide, although there are many places where it is not half a mile wide.

Senator MORGAN. I am talking about this particular place.

General DAVIS. At that particular place where the Gamboa dam is proposed to be built, we know exactly what its width is there. It is all shown on these maps.

Senator MORGAN. You measured that in order to get locations for the abutments of the dam?

General DAVIS. Exactly; yes, sir.

Senator MORGAN. How is it below that?

General DAVIS. Below that it widens a little, and at places considerably, and then pitches in again, so that you have not a regular width at all; but at places I think it may be a mile wide.

Senator MORGAN. Now, take the axis of the canal, which has been located here as being a mile away from this dam that the majority propose to build there for the protection of the sea-level canal—

General DAVIS. Oh, it is not more than half a mile, Senator.

Senator MORGAN. Half a mile?

General DAVIS. Not a half a mile.

Senator MORGAN. I thought that was a mile.

General DAVIS. No; it is not more than a third of a mile.

Senator MORGAN. I will take the axis of the canal, then.

General DAVIS. Yes, sir.

Senator MORGAN. And also the dam. It is half a mile between the two?

General DAVIS. Yes, sir.

Senator MORGAN. Is that level ground, or comparatively level?

General DAVIS. No, no; not comparatively level. There is very little level ground anywhere in that region.

Senator MORGAN. I do not mean dead level, like a table top.

General DAVIS. Oh, no; I understand. But there are great varieties in the surface in almost any quarter of a mile. There are a good many changes of level in any quarter of a mile.

Senator MORGAN. I know; but are there any prominent ridges that come up and intercept it?

General DAVIS. No, sir.

Senator MORGAN. It is a valley? Generally described, it is a valley?

General DAVIS. Yes, sir; yes, sir.

Senator MORGAN. Then you put in the Obispo Valley, coming into that?

General DAVIS. Yes, sir.

Senator MORGAN. That still further widens the area between the ridges?

General DAVIS. At the point where it debouches, as you sail up the Chagres (as I have done in a canoe), you would not, unless told, know that there was any stream coming in there at all. There are some overhanging boughs, some overhanging trees, and they say: "That is the mouth of the Obispo." It does not look like anything but a bayou. I am talking now about low stages of the river.

Senator MORGAN. Yes.

General DAVIS. It is 30 or 40 feet wide, not more; and it looks just like a little bit of a turning-out place. But that is really where the Obispo comes in.

Senator MORGAN. I suppose, General, that the jungle is so thick through that country that by visual observation you can not tell much about it?

General DAVIS. You can not tell anything at all about it unless you cut it out.

Senator MORGAN. Until you cut it out?

General DAVIS. Until you cut it out; no, sir.

Senator MORGAN. It is as thick as that?

General DAVIS. Oh, yes; it is everywhere.

Senator MORGAN. The point that I am trying to get at, and to which I will direct your attention more particularly, is whether or not a retention basis can be put in below the Obispo dam so as to control or assist in controlling the flood waters coming out of the Obispo and the Chagres?

General DAVIS. There can be no dam built below the Gamboa dam, across the Chagres, and below the mouth of the Obispo. It can be done. It will cost four or five times as much as it will to build a dam at Gamboa.

Senator MORGAN. I do not mean to have you understand that I am discarding the Gamboa dam. I am letting that dam stand.

General DAVIS. Oh, I did not understand you, then.

Senator MORGAN. I am providing for a case in which your calculation might possibly prove too enthusiastic in favor of the retaining power of that dam as to the body of water above it.

General DAVIS. Yes, sir.

Senator MORGAN. And where you might have to construct another basin below that as a regulating work.

General DAVIS. If the idea be a sea-level canal, the canal would traverse this basin.

Senator MORGAN. I know it would.

General DAVIS. Because the canal axis must, or at least does, follow the lowest ground.

Senator MORGAN. Yes; but I have not a sea-level canal in my mind in asking this question.

General DAVIS. Oh, I see.

Senator MORGAN. Now, I will take such a basin as that: What would be the superficial area, or about the acreage, that could be gotten in there?

General DAVIS. Supposing that you put the proposed dam just below the mouth of the Obispo, if I understand you correctly?

Senator MORGAN. Well, yes.

General DAVIS. At the mouth of the Obispo, or just below it—I will say at Matachin?

Senator MORGAN. Yes.

General DAVIS. That is the name of a locality there that has been spoken of as a site for locks by somebody.

Senator MORGAN. Yes.

General DAVIS. The distance of Matachin from the proposed site of the Gamboa dam would be, at the most, three-quarters of a mile. Your reservoir, or your basin, would be three-quarters of a mile long.

Senator MORGAN. And how wide?

General DAVIS. It would be the width of the valley, depending on the height of your dam. But supposing your dam to be 50 feet above the present water level, I fancy that the reservoir in that space would be half a mile wide—something like that. This is only approximate guessing. I could not give it any more accurately than by saying that it would be half a mile wide, and three-quarters of a mile from your proposed dam up to the Gamboa dam.

Senator MORGAN. Is there room for a sea-level canal and also for a drainage canal—I will call it a drainage canal—or an opening to convey the flood waters that may escape from the Gamboa dam along the general direction of the Chagres River, cutting across it when it is necessary to go across it, so as to reach the Gigante River, and pass

that water out through the watershed of the Gigante into the Peña Blanca Swamp or any other stream beyond?

General DAVIS. No; you can not do that, Senator.

Senator MORGAN. You can not do it!

General DAVIS. No, sir; nature is against you. The spillway of the Gigante is about 70 feet above the sea; and it would be necessary, in order to keep the water up to that level from the Obispo all the way down there, to build an embankment alongside of the sea-level canal 70 feet high all that distance—14 miles, or something like that—which would be an impossible proposition.

Senator MORGAN. Unless you took the spoil out of the sea-level canal and built a bank of it.

General DAVIS. Oh, yes; but there are methods of treating it which are so much better than that that it seems to me that should be discarded at once; because you can not make the Gigante reverse its flow over its own sources 70 feet high, and feed water into it that comes at a level of 40 or 30 feet or some other lower level.

Senator MORGAN. A dam at the proposed site at Bohio would not be sufficient to carry the water across the watershed into the Peña Blanca Swamp?

General DAVIS. I do not think I quite catch the question.

Senator MORGAN. You build a dam across the mouth of the Gigante River for the purpose of throwing the water back over its watershed?

General DAVIS. Yes, sir.

Senator MORGAN. How high would that dam have to be?

General DAVIS. That dam will have to be—I can not tell you now which is which, but one is 45, and one is 55, and one is about 65 feet high. There are three of those dams.

Senator MORGAN. That is only half as high as the Gamboa dam?

General DAVIS. Yes, sir; something like that.

Senator MORGAN. Only half as high?

General DAVIS. Something like that.

Senator MORGAN. So that it would be practicable, with a dam of that sort, to collect the overflow of the waters from the Obispo or from the upper Chagres that might escape the Gamboa dam and take it out with that dam 50 or 60 feet high across the watershed of the Gigante?

General DAVIS. But you would have a tremendous proposition to carry a channel for that water all the way down to the Gigante. It is miles and miles of distance that you would have to carry that water before it would get to the Gigante.

Senator MORGAN. It does not appear to me to be any more formidable a proposition than shutting the affluents out of the sea-level canal.

General DAVIS. The Obispo, three hundred days in the year, is a brook that you can step across.

Senator MORGAN. So much the better for the work.

General DAVIS. It is a brook you can step across; but in the times of flood it is a roaring torrent, just boiling with mud and water.

Senator MORGAN. And it gets very high very quickly?

General DAVIS. Yes; it gets very high very quickly, and it goes down just as quickly as it goes up. But that stream, under its active conditions, under its most violent moods, is going to send down, perhaps, 10,000 second-feet of water—something like that. I can not say, right offhand, what it is, and as I told you yesterday

the River Weaver empties 38,000 second-feet into the Manchester Canal every year at times of flood.

Senator MORGAN. I know about the comparison between that and the Manchester Canal, but at the same time, while I am not exactly alarmed, I am pretty apprehensive as to the Obispo, which is not taken care of by the Gamboa dam at all.

General DAVIS. No, sir; there is no attempt to take care of it by that dam.

Senator MORGAN. I am apprehensive that that Obispo River, pouring into a sea-level canal, might give you a great deal of discomfort, if not danger.

General DAVIS. There is one phase of this case, or one uncertainty about it, that perhaps may be cleared up by a statement, and I judge from the questions of other witnesses before the committee that there is some misunderstanding about it. That is this: The diversion channels proposed by the majority for the Chagres River are to be used only during the period of construction. As soon as the canal is made those diversion channels may grow up to jungle, or be filled up or disappear and be obliterated. The canal itself becomes the ultimate drainage of the whole country. The canal itself carries off all the flood flow after it is once made.

Senator HOPKINS. Does all the water of the Chagres River flow into the sea-level canal under that plan?

General DAVIS. Every drop of it that went into the canal at all would come in through the Gamboa dam, and that would be a regulated flow of never to exceed 15,000 second-feet, and always perfectly clear, limpid water.

That is the proposition of the majority, after the canal is once made. These diversion channels will be convenient accessories during the making of the canal, but after it is once made, then the majority propose to discontinue the use of the diversion channels and let the water take its lowest level for escape to the sea, which is the canal itself.

As to these figures that I read yesterday in regard to the storage capacity of the Gamboa dam, it is a fact (which is as certain as that we know how much water passes over the Great Falls of the Potomac) that the mean flow of the Chagres River for thirteen years was 3,164 second-feet; that is, the mean flow of the river, taking no account of four or five floods that may occur in a year. In the year I was on the Isthmus there was not a flood at all that would raise the water 5 or 6 feet. But those floods do occur once in a while. Leaving out the question of floods, 3,164 second-feet is all the water there is in the Chagres River at Gamboa. There is not another drop there. Now, to allow 3,164 second-feet to flow into the canal is nothing; it is a mere trifle; it counts for nothing; it is insignificant.

As I read yesterday, the biggest flood that ever occurred in the Chagres River in the history of man, at least so far as man knows anything about it, was in the flood of 1879, when, according to the testimony of one individual (Mr. Sosa), the water at Gamboa got up 36 feet. He says that the natives told him that the water went up to such and such and such a point, and he made a note of it in his notebook, and that is the record on which that flood of 1879 is computed.

That flood probably sent out a flow at Gamboa for a few minutes, maybe an hour, of 79,000 second-feet, according to the calculations of

General Abbot, who has spent years upon this study and is one of the most competent men that there is in the United States or in the world for the study of engineering questions of that character. He has stated in published reports that he has made that the mean flow of that flood of 1879 at Gamboa was 65,250 second-feet for forty-eight hours. We know that it only lasted forty-eight hours; that is history. We hear from this testimony of Mr. Sosa, based upon what natives had told him, that it did go up to 36 feet of rise at Gamboa. Now, assuming those two things as facts—and they are certainly interpreted in favor of the maximum quantity—that Chagres flood of 1879 at Gamboa would not more than one-quarter fill the Gamboa dam. The whole flood of forty-eight hours would only one-quarter fill it.

Senator MORGAN. Then what is the use of having any dam at Gamboa at all?

General DAVIS. Because these tremendous floods will put an end to navigation. We can not take 65,000 second-feet into the canal and maintain navigation. The dam is necessary to keep out all the silt and all the gravel that is rolled along the bottom, and all the boulders and drift that would come tearing down there.

Senator MORGAN. And also to supply water in the case of a deficiency in very dry time?

General DAVIS. We do not care anything about that for a sea-level canal.

Senator MORGAN. Oh, no; not for a sea-level canal. Then it is exclusively a protection against floods?

General DAVIS. It is purely regulating works. Incidentally, it would be used to develop power for electric lighting and to run a trolley railroad, etc.

Senator MORGAN. Of course it would develop a very great power for such purposes?

General DAVIS. Oh, yes; it would develop many, many thousand horsepower. I have forgotten how many; but it is very easy to compute it.

Senator KITTREDGE. I have forgotten for the moment the height of that dam above the surface.

General DAVIS. Above the surface?

Senator KITTREDGE. Yes.

General DAVIS. It is 130 feet above the surface of the ground.

Senator KITTREDGE. And, as I recall it, it is about 55 feet from the surface to the bed rock?

General DAVIS. Yes, sir.

Senator MORGAN. General, in digging a sea-level canal from the Bay of Limon to Gamboa, you would, I suppose, get as close as you conveniently could to the hills that are on the right bank of the Chagres River?

General DAVIS. Yes, sir.

Senator MORGAN. You would have to trim off certain points in order to get your lines straightened out?

General DAVIS. The hills on the right bank, you say?

Senator MORGAN. On the right bank.

General DAVIS. I should take the most favorable location for the canal, wherever it was, without regard to any particular bank.

Senator MORGAN. Yes; you would take the favorable location, and cut the bank away?

General DAVIS. Yes; I would straighten the bends and get the necessary width and curvature, etc.

Senator MORGAN. Is it not practicable, in dealing with the sea-level canal on that plan, to utilize the spoil out of the canal, and particularly between Bohio and Gamboa, so as to make a formidable protection or wall against any other water that comes down from the Obispo or the Chagres or anywhere else? You would get it across your canal.

General DAVIS. To utilize the spoil for building an embankment between Bohio and Gamboa?

Senator MORGAN. Yes; utilize the spoil so as to build the embankment next to the river as you come on up, or next to the low ground; throw the spoil on one side. The hills are on one side.

General DAVIS. Where do the tributary streams come in? Some of them are mere rivulets, the size of your wrist or arm, and others are of considerable volume in times of flood. Those little brooks would be interrupted by such an embankment as you speak of.

Senator MORGAN. No, no.

General DAVIS. Then I do not understand your question.

Senator MORGAN. They would be let into the canal freely. They come out of the hills?

General DAVIS. Yes; they come out of the hills.

Senator MORGAN. We would throw all the spoil in the embankment on the other side, toward the river. I am coming up the right bank of the Chagres River, and throwing all the spoil out of the cut.

General DAVIS. These tributary streams would sweep it all back into the canal unless they were controlled by systematic means and weirs provided.

Senator MORGAN. But you have the tributary streams on the wrong side, I think.

General DAVIS. There are tributary streams on both sides, you know.

Senator MORGAN. I understand that; and I understand that they have to be dammed off. Those that come in on the left bank of the Chagres River have to be controlled by dams?

General DAVIS. Yes.

Senator MORGAN. Each dam being applicable to each stream?

General DAVIS. Yes.

Senator MORGAN. Very good. On the other side, on the right bank of the river, the streams are smaller, not so numerous, and, if I have understood you correctly, there is not much of a channel to be dug to divert them?

General DAVIS. The depth of excavation for a sea-level canal from Bohio to Gamboa ranges all the way from a mean of, I will say, 45 feet at Bohio up to the mouth of the Obispo, or from the bottom of the canal—which, you will remember, is 40 feet below the sea—of 75, 80, or 85 feet.

Senator MORGAN. Let us put it at 85 feet, so as to get it clearly.

General DAVIS. Yes; something like that.

Senator MORGAN. All right; 85 feet. In digging that canal you would have to take out a good deal of earth between Bohio and Gamboa?

General DAVIS. Oh, a great deal.

Senator MORGAN. Very good.

General DAVIS. By the way, I happen to remember now that the sea-level canal from the mouth of the Mindi to Gamboa involves the excavation of 95,000,000 yards of material.

Senator MORGAN. Very good. Now, take those 95,000,000 yards, if you please, and throw them away from the bordering hills on the right bank of the Chagres River and run your canal as close to the hills as you can conveniently and economically get it.

General DAVIS. Yes.

Senator MORGAN. And throw all of the spoil out of this canal—there is a great deal of earth there—in the direction of the Chagres River, so as to make an embankment to fence it off.

General DAVIS. Yes.

Senator MORGAN. Would not that be a great protection to it, if you got the Chagres River across your canal at some place?

General DAVIS. I can not see, Senator, how you could arrive at any condition of affairs that would be as favorable as it would to follow the idea that the majority recommends. It seems to me that that is reducing the thing to its simplest terms.

Senator MORGAN. Your idea of building the canal is that the simplest way to build it and the cheapest way and the most economical way is to follow practically, in a general sense, the flow of the Chagres River?

General DAVIS. Yes, sir; I think so.

Senator MORGAN. And take that river in as you go along?

General DAVIS. Yes; take that river in as you go along, after you have your canal finished. After the canal is made, then take in the regulated flow of that river.

Senator MORGAN. I have never seen why it is necessary to take it out while you are digging the canal, if you dredge it.

General DAVIS. When you get up, Senator, to a place where, we will say, the present floor of the river is at 40 feet above the sea and your canal is 40 feet below the sea, therefore in working there with your dredges you have a breast 80 feet high, 40 feet of which is out of water. Is that thinkable?

Senator MORGAN. I can see that that 40 feet out of water would have to be dug away.

General DAVIS. And 40 feet below.

Senator MORGAN. That would have to be dredged.

General DAVIS. And the dredges are floating in this channel already made up to this point 40 feet deep.

Senator MORGAN. Yes.

General DAVIS. Now, there is a breast ahead of you that is 40 feet high, and over the head of which is coming the flow of the Chagres River. Is that clear?

Senator MORGAN. Yes; so that you have to fence it out in order to dig it?

General DAVIS. Yes; that is it.

Senator MORGAN. That is one of the very great expenses, in my conception, that you will have all the time you are digging that canal. You will have to fence out the Chagres River and make a dry digging of it all the way through.

General DAVIS. This will happen in the construction of that canal (it will not be any great calamity, but this will happen): The engineers will try to carry the flood flow of this river in these diversion channels, but until the time the Gamboa dam is made these diversion channels will be inadequate to carry the Chagres flood at times. It is perfectly well understood that that will be so. What will happen? That flood will come along, bearing down there while these dredges are at work, and it will interrupt things. It will fill up some of the workings; it will flood the whole thing for the time being.

Senator MORGAN. And wash everything out to sea?

General DAVIS. Not everything; no. The dredges will be moored; they will be kept there. The floods will sweep out the false work; they will do ten or fifteen or twenty or fifty thousand dollars' damage, perhaps, and in a week's time they will be going ahead again.

Those things happen in all these great big works everywhere. Such a thing happened in the Sweetwater dam yesterday, where the false works were swept out. But that is not going to discourage them from going right ahead again and building a dam there.

So in the building of the Susquehanna dam that Mr. Parsons is at work at now; he is going to have trouble. He is going to have floods of 600,000 second-feet in the Susquehanna River to contend with, and he is going to lose a lot of money for his employers at times by the accidents of these sudden rises. But that is not going to stop the work.

Those accidents are going to occur at Panama in just that way, with any kind of a canal that is built. They are going to have accidents, and they are going to cost some money; but they will be overcome in the end.

Senator MORGAN. Your apprehensions about the effect of the Chagres River pouring over this embankment and interrupting the work indicate that no part, or a very small part, of the work between the Bay of Limon and Gamboa can be done by dredges?

General DAVIS. A very small part of the rockwork can be done by dredges, Senator. I think there is a very small part of that.

Senator MORGAN. Or any other work?

General DAVIS. If we had unlimited space to work dredges against, what we call a "breast," if we had a mile stretch to put them and work in, we could think out plans for doing it. But where you have only 150 or 200 feet of width, with a breast 200 feet wide and 60 or 70 or 80 feet high, and you are working always against that breast, your rate of progress would be so slow that you would not get the canal made in a hundred years.

Senator MORGAN. Then, in any calculations or judgment we may arrive at about this matter we must eliminate the dredge?

General DAVIS. You will have to eliminate the dredge in all that rockwork as cutting any considerable figure.

Senator MORGAN. You say "rockwork;" but it seems to me it applies as well to the earthwork as it does to the rockwork.

General DAVIS. I say "rockwork" because the rock happens to be found where the cutting is deepest. That happens to be the case.

You know what Mr. Bunau-Varilla's ingenious idea is—to do all of this work under water. He says that you can take rock out under water so much cheaper than you can take it out dry. That is the basis of his argument. And yet the MacArthur Brothers, who are

improving the Hay Lake channel up there near the Soo, and who had a contract based on about \$2.80 for the excavation of rock under water, instead of doing it under water have gone to work and built a bulkhead at each end of a 3-mile stretch and pumped it all out, so that they can do it in the dry.

Senator MORGAN. It results from the little discussion we have just been having, it seems to me, that all the hauling down there will have to be done by railroad.

General DAVIS. I think that all of the Culebra hauling will have to be done by rail. Senator.

Senator MORGAN. Not the Culebra, merely?

General DAVIS. All of the deep cutting will have to be done by rail. Where it is a dredging proposition and the earth and the rock are at no very great depth, the dredges will do the work. You can start them in at more than one place.

Senator MORGAN. That applies to both types of canal?

General DAVIS. Yes, sir.

Senator MORGAN. Equally?

General DAVIS. Not equally, no; because the amount of excavation is different in the two types of canal.

Senator MORGAN. I mean in an equal degree?

General DAVIS. Yes, in an equal degree; to the extent to which their excavations apply; certainly.

Senator MORGAN. Yes. That means that the steam shovel and the railroad are the great implements with which this canal is to be dug, whether it is a sea-level or a lock canal?

General DAVIS. Yes, sir; all the upper part of it, all the deep part of it; but the low, level parts will be done by the dredge.

Senator MORGAN. From Bohio to Port Limon?

General DAVIS. From the sea up to Bohio and up to Miraflores.

Senator MORGAN. That would be done by dredging?

General DAVIS. Oh, yes; that will be done by dredging.

Senator MORGAN. That is 20 miles including those dredging lines?

General DAVIS. It is 17 miles from Limon Bay to Bohio; it is about 7 miles from the Pacific end up to Miraflores. That is about 24.

Senator MORGAN. Twenty-four miles?

General DAVIS. Just about half of the line is a dredging proposition.

Senator MORGAN. The dredging proposition, then, would cover just about half of the entire length of the canal?

General DAVIS. Yes; and a little of the work above Bohio is a dredging proposition, too—a couple of miles or so above Bohio. At Bohio, you know, we cut through a spur.

Senator MORGAN. Yes; from Miraflores into the Pacific Ocean, as deep as you would want to go down to the 40-foot contour, you can go with dredges?

General DAVIS. Yes, sir; you can do all of that work by dredges. Some of it is rock, but you could blast the rock and take it out with dredges.

Senator MORGAN. And from Bohio to the Bay of Limon you can do it with dredges?

General DAVIS. Yes, sir.

Senator MORGAN. You can do the work with dredges?

General DAVIS. Yes, sir.

Senator MORGAN. And in the interval between Bohio and Gamboa you would have to work in the dry?

General DAVIS. A good deal of the way; but there is some part of that distance that can be dredged.

Senator MORGAN. There are probably a couple of miles that you could dredge above Bohio?

General DAVIS. There are two or three miles, maybe, of dredging proposition in there.

Senator MORGAN. Then that would leave about 15 miles?

General DAVIS. Something like that.

Senator MORGAN. Of dry work?

General DAVIS. Of dry work; yes, sir.

Senator MORGAN. Over the whole of it?

General DAVIS. Yes.

Senator MORGAN. All but 15 miles of it could be done with dredges?

General DAVIS. I do not mean to say that dredges would not be used to some extent all the way to Gamboa. I think they would be to some extent; but all of the great mass of the top work down to the sea level will have to be taken off in the dry.

Senator MORGAN. Then after you got your canal all dug, equipped, and everything of the sort, you would not have any use for the Gamboa dam?

General DAVIS. After we have the canal made?

Senator MORGAN. Yes.

General DAVIS. Oh, my dear sir, yes. That is the time that its use becomes most important—that is, to regulate and control these floods.

Senator MORGAN. Then I am mistaken in my understanding of your testimony that after the canal is completed at sea level it will take care of all of the waters of the Chagres River?

General DAVIS. It will take care of all the water in a regulated flow.

Senator MORGAN. Oh, you mean that?

General DAVIS. Oh, yes; I mean that, of course.

Senator MORGAN. You do not propose to dispense with that dam?

General DAVIS. Oh, by no means; no, sir.

Senator MORGAN. So that dam is put there for good and all?

General DAVIS. For good and all, to remain there forever, and to regulate the flow of the Chagres River for all time, and to spill the water of that river out just as slowly as we wish to and as fast as we wish to.

Senator MORGAN. Yes. Now, suppose, General, that Congress should come to the conclusion that the most economical and the quickest and the best way at present to build that canal would be to build a lock canal, with locks in the vicinity of Gamboa, say, a mile apart, of 30 feet elevation, and locks in the vicinity of Miraflores, at a proper distance, about 30 feet elevation, and with two locks on each side; that would leave a 60-foot elevation above the level of the sea, cutting down the Culebra and Emperador heights until you got down to the 60-foot level?

General DAVIS. Yes, sir.

Senator MORGAN. Suppose that the two Houses of Congress and the President should come to the conclusion that, after all, a sea-level canal, reaching to Gamboa, or in that vicinity, and from Miraflores out to the 40-foot contour in the Bay of Panama, would be the best

and the cheapest, and that it would at the same time enable the engineers, in the construction of this work, to determine, before these sea-level reaches could be dredged and completed, whether it was better or not better to take out that cube of earth and rock (most of it rock) between Gamboa and Miraflores. The point I want to get at is this: If you dredged your canal up to Gamboa, in pursuance of such a suggestion as I have made, is there any difficulty in that soil and at that place in putting in two locks, say, half a mile apart, but not in flights, or a mile apart? Is the soil adapted to putting locks into that canal?

General DAVIS. The answer is very easy. The situation at Obispo is not difficult to see from this map. The point to which Senator Morgan's question relates is here [indicating]. You see the figure "31" there; that means 31 miles from Colon. The village of Obispo stands right here. Here we come into a straight tangent, or nearly so, approaching the Culebra. These locks, if located, must not be farther to the eastward than 31. They must come in this space. The locks on the other side would be, one at Miraflores and one at Pedro Miguel, here [indicating].

The situation which is described in the question will, I think, leave a lock canal infinitely to be preferred to the lock canal which the minority recommends. I think this is a situation in which two locks can be placed, one circumstance only opposing it, and that is that this approach to the lock is a curve—a curve that can not be dispensed with. It is inevitable. It happens to be one of the four sharpest curves in the whole canal line, the radius from this center point being 8,200 feet.

That is the only unfavorable feature. But two locks can be placed here, and two can be placed on the west side or the southwest side; and that will leave a sea-level canal to Gamboa and a sea-level canal to Miraflores, with an elevation 60 feet high interposed—that is, with an elevation 60 feet high minus the depth of the canal itself, which is 40 feet. Therefore the floor of the canal will be 20 feet above the level of the sea; and 40 feet to its own bottom will leave a height of land interposed of 60 feet.

I think that before the engineers get through with the making of that canal they will be very impatient to get authority from the Commission or the Government or somebody to take out those other thirty, forty, or fifty million yards.

Senator MORGAN. The great proposition involved in the question I put is just this: That in constructing a canal on the plan I have mentioned, starting the construction and carrying it on the plan I have mentioned, it is practicable to ascertain by the cost of various kinds of work and cost of transportation and all other costs connected with it almost the exact value of taking out this cube between Gamboa and Miraflores.

General DAVIS. Yes, sir.

Senator MORGAN. And when you have dug down to 60 feet, probably you will have dredged in as far as Bohio, at least, or you may possibly have dredged in as far as Gamboa, and on the other side you will have dredged in to Miraflores.

General DAVIS. Yes, sir.

Senator MORGAN. And then, aided by the lessons of experience and observation, and also assisted in coming to our conclusions by

the financial condition of the country, it could be ascertained with more satisfaction than it is possible to ascertain by a present conjecture or present calculation as to whether that great cube of stone between Gamboa and Miraflores could be economically removed, and bring the whole canal to sea-level. That strikes me as being one of the elements in a recommendation on this proposition which is a very important one, considering all the situation, and particularly the state of public opinion, which, before this canal is ever built down to a sea-level, will have to crystallize and ripen in favor of it through observation and experience.

General DAVIS. Yes, sir.

Senator MORGAN. Now, I have seen a plan which occurs to me as being a very important one and, I believe, a practical solution of the difficulty of getting rid of any possible interruption or interference by the Chagres River after the Gamboa dam is completed. That is to unite with the Gamboa dam a viaduct crossing the Chagres River at the elevation of 60 feet above the sea level, that viaduct to be approached from the northward or eastward, the eastern end to be connected by a lock of 30 feet elevation, with another lock a half a mile or a mile distant, that having another 30 feet of elevation, where it would connect with the sea-level cutting; and, on the other hand, having at Miraflores and Pedro Miguel locks of the same elevation that would let the water down or let it up, as the case might be, into a lock canal; the lock canal to be supplied and regulated through this viaduct or into this viaduct from the Gamboa dam.

General DAVIS. I think I have seen some plan that answers the description you give.

Senator MORGAN. I wish, before we close this examination, that I may have the privilege of submitting a question to you upon this basis, and asking you for your judgment as to its practicability. I call attention to it now, Mr. Chairman, because I will hand General Davis at a proper time that question, and let him give us in writing—if the committee is willing—a statement of his opinion upon the practicability of that plan. I will hand you the question some time during the day, General, if you please.

General DAVIS. Yes, sir; I will be very glad to have it.

Senator MORGAN. And I will ask permission that General Davis may put his reply to that question, which I will read to the committee before I hand it to him, into his examination, as if he was here present when the question was asked.

The CHAIRMAN. Do you wish to put it in writing?

Senator MORGAN. Yes; to put it in writing, and to just put the question and the answer to that simple proposition in the record.

Senator ANKENY. Does that contemplate a division of the Chagres waters east and west?

Senator KITTREDGE. It will explain itself.

Senator MORGAN. Yes. It contemplates the filling of the prism of the canal between Gamboa and Miraflores with Chagres water, fresh water. The balance of the canal on either side would be filled, of course, by similar water coming from the sea on either side.

Senator KITTREDGE. What is the character of the foundations at that point?

General DAVIS. At Gamboa?

Senator KITTREDGE. At Obispo.

General DAVIS. Rock—conglomerate, hard conglomerate.

Senator KITTREDGE. How near the surface?

General DAVIS. It crops out away up; it is all around Obispo.

Senator KITTREDGE. And what is the character of the surface, say, half a mile or a mile toward Panama from Obispo?

General DAVIS. From Obispo?

Senator KITTREDGE. Yes.

General DAVIS. That would be the station we call Haute Obispo; it is similar to the ground about Obispo itself. The ground is rising; rising, rising constantly.

Senator KITTREDGE. Is there rock near the surface up there?

General DAVIS. Yes; there is rock near the surface all along there. There is an abundance of rock all along there for some little distance, I think. In fact, all the way from Obispo to Pedro Miguel you may say it is a rock proposition, except the covering of the soil on the surface.

Senator MORGAN. Matachin is about 5 miles, is it, from Gamboa?

General DAVIS. From Gamboa?

Senator MORGAN. Yes.

General DAVIS. Oh, no. Matachin, I should say, was about a mile or a mile and a quarter from Gamboa.

Senator MORGAN. Down the river?

General DAVIS. Down the river.

Senator MORGAN. Yes. Now, what is the general description of the country between Matachin and Gamboa, taking the straight line?

General DAVIS. Very much the same as it is below. It is a rolling ground, and the river is running through a channel the banks of which are 20 or 25 or 30 feet high—cultivated in bananas and corn and other things. It is a rolling, broken surface.

Senator MORGAN. If you should bring your sea-level canal to Matachin, or in that vicinity, and you wished to put in a lock there—

General DAVIS. There is no difficulty in putting in a lock on rock foundation at Matachin.

Senator MORGAN. At Matachin?

General DAVIS. No.

Senator MORGAN. Or anywhere between there and Bohio?

General DAVIS. I would not say anywhere between there and Bohio.

Senator MORGAN. There are lock sites, however?

General DAVIS. There are lock sites at several places—two or three places—between Gamboa and Bohio. One is at San Pablo, a very favorable lock site.

Senator MORGAN. Do you say between Gamboa and Bohio?

General DAVIS. Between Bohio and Gamboa, at several points, there are sites where you could build a lock without any trouble on a rock foundation.

Senator MORGAN. That is what I wanted to get at.

General DAVIS. Oh, yes; you can do it in many places; and San Pablo is a rather favorable place for a lock, too, for the ground is high close by on each side.

Senator MORGAN. On the plan I suggest, there is at present no probability that there is any want of proper lock sites to connect the sea-level with the lock canal?

General DAVIS. Oh, no; oh, no. You can connect it below. You would save money by shortening up your sea-level portion and putting your locks, one, say, at Bohio, and one at San Pablo, and another one at Obispo. If you had three locks, going up to 90 feet, you would save more money that way.

Senator MORGAN. You would not want three locks, though, for 60 feet of elevation?

General DAVIS. Oh, no; of course not.

Senator MORGAN. You would want only two?

General DAVIS. Yes; that is all.

Senator MORGAN. That is all I wanted to ask.

Senator KITTREDGE. What would be the length of the dams at Obispo and the place just south of there toward Panama?

General DAVIS. The dams? There would be no dams required on a 60-foot proposition. The surface of the ground would be higher than the top of your lock.

Senator KITTREDGE. That is the point that I wished to ask about.

General DAVIS. Yes; the surface of the ground would be higher.

Senator MORGAN. No; there is no dam on that site at all.

Senator KITTREDGE. It would be simply the lock structure?

General DAVIS. That is all. Oh, no; there would be no dam there.

Senator KITTREDGE. And would the same condition hold at Pedro Miguel or Miraflores, in that vicinity?

General DAVIS. Not quite, because there is the little river Rio Grande down there to be taken care of; and just so that would be disposed of, which would be a small matter, the conditions would be similar.

Senator KITTREDGE. In that plan or type, I assume that the water from Lake Gamboa would be introduced into the prism of the canal above the locks?

General DAVIS. Exactly.

Senator KITTREDGE. And the water would be used in that event to feed the locks?

General DAVIS. Exactly.

Senator KITTREDGE. Do you think that water supply would be ample for that purpose?

General DAVIS. Oh, abundant. As I showed you yesterday, it is three and a half times greater than the minority proposed for their own lock supply with the Gatun Lake—three and a half times more. Oh, it is an abundance. I have made a calculation that shows that without any question.

Senator MORGAN. If you will allow me to make a suggestion, the plan that I mentioned provides for the same lockage at Pedro Miguel and Miraflores that is provided for by the proposition of the minority with a dam at Gatun, except that there is one lock less.

General DAVIS. Yes; well, they have a summit level of 85 feet, you know.

Senator MORGAN. Yes; with an 85-foot level.

General DAVIS. And you propose 60?

Senator MORGAN. And I propose 60.

General DAVIS. There would be that difference.

Senator MORGAN. There would be that difference?

General DAVIS. Yes; 25 feet taken off of 85.

Senator MORGAN. It would take out one of the locks?

General DAVIS. Yes.

Senator MORGAN. My proposition would require two locks instead of three at that place.

General DAVIS. Yes; I see.

Senator KITTREDGE. What would be the expense of constructing the locks at Obispo and the next lock toward Panama, at Pedro Miguel or Miraflores, or in that vicinity?

General DAVIS. The cost of them?

Senator KITTREDGE. On the plan or type suggested by Senator Morgan in his question?

General DAVIS. That would be a question that I could not answer without careful calculation and study; but those four locks, I suppose, would cost about in proportion as the six were expected to in the 85-foot project—that is, they would be as 4 is to 6—two-thirds; and that amount was \$35,000,000. I suppose it would be two-thirds of the \$35,000,000; something like that. That is as near as I could state it offhand.

Senator KITTREDGE. You stated, in answer to a question by Senator Morgan, that if this is to be a lock canal you preferred the type of lock canal suggested by him to that proposed by the minority.

General DAVIS. I think in general it would be preferable.

Senator KITTREDGE. I wish you would give your reasons for that answer.

General DAVIS. Because it is more readily converted into a sea-level canal; because I think that is the ultimate we are coming to always, and it would be more convertible; that is the reason.

Senator KITTREDGE. What about the safety of the lock structure suggested by Senator Morgan?

General DAVIS. Oh, it would be safe enough. There would be no question of safety. All of his locks would be on solid rock.

Senator KITTREDGE. Would every element of doubt regarding the stability of the lock structure be eliminated?

General DAVIS. Oh, I think so. They would all be on solid rock foundation. It is the 60-foot project the Senator is talking about?

Senator KITTREDGE. Yes.

General DAVIS. Oh, yes; they would all be on rock foundation.

Senator KITTREDGE. How much in excavation would be saved by the plan suggested by Senator Morgan over the sea-level type proposed by the majority of the Board of Consulting Engineers?

General DAVIS. That is a question no one could answer specifically without making some calculations; but there are some guiding points that you can regard. In the lock proposition of the minority they propose to excavate from the Culebra some 53,000,000 yards. For the sea-level proposition there is contained in the Culebra from Obispo to Pedro Miguel 110,000,000 yards. So the difference between those figures represents the earth that would remain, provided the sea-level plan at 85-foot elevation was carried out.

Now, the Senator's proposition is to go down 25 feet deeper; so that if the ratio of the material remaining in the 85-foot project compared to the sea level should be the same for the 60-foot project, then the ratio would be sixty eighty-fifths of the 57,000,000 cubic yards remaining that would come out under the sea-level proposition.

Senator KITTREDGE. Can you give us that figure?

General DAVIS. The stenographer can calculate that in a minute. It is sixty eighty-fifths, twelve-seventeenths. It is an easy enough calculation. [After making calculation.] About 40,000,000 would remain.

Senator KITTREDGE. What unit of cost would be applied for the excavation of that difference?

General DAVIS. Eighty cents to about one-quarter of it, and \$1.25 to the remainder; 80 cents for 10,000,000 yards and about \$1.25 for 30,000,000 yards.

Senator KITTREDGE. And that would be about how much in dollars, about \$50,000,000?

General DAVIS. Fifty-eight millions—that is, if my figures are correct. That is the way it strikes me. No; I am wrong.

Senator KITTREDGE. It would be forty-eight, would it not?

General DAVIS. It would be forty-five millions. But you must remember that out of that mass the lock pits would have to be excavated, which would reduce somewhat that quantity.

Senator KITTREDGE. I think that is all.

Senator MORGAN. General, you have had great experience in the government of these people who have been brought in contact with the Government of the United States at Porto Rico, in Cuba, and in the Philippines. In the Canal Zone you would have, added to the character of the population that you have heretofore governed, a large number of laborers—I mean under the present system of government?

General DAVIS. Yes, sir.

Senator MORGAN. Brought from anywhere you could get them?

General DAVIS. Yes, sir.

Senator MORGAN. Of different nationalities and different habits and different understandings of law and of obedience to law, etc.?

General DAVIS. Yes, sir.

Senator MORGAN. I suppose you will concur with the balance of us in saying that that is a very difficult government to conduct?

General DAVIS. It is a complicated situation; yes, sir.

Senator MORGAN. You have to have laws that in their provisions and in their justice and in the justice of their application would reach from the highest civilization down to what we might call nearly the lowest?

General DAVIS. Of course, the laws should be made to fit all classes.

Senator MORGAN. All classes. The Commission of which you were a member have worked out a system of statutes?

General DAVIS. Yes, sir.

Senator MORGAN. Which is displayed here?

General DAVIS. Yes, sir.

Senator MORGAN. I suppose that that work required a great deal of care and a great deal of reflection in order to make the laws applicable to all the different conditions that you found in the Isthmian Zone?

General DAVIS. Yes, sir; it did.

Senator MORGAN. It was a severe labor?

General DAVIS. I do not know that I would say severe; but it was, of course, burdensome, and there were a good many people assisting in it in their way.

Senator MORGAN. Yes.

General DAVIS. The models which we had to go by were helpful. Americans had had experience in the government of tropical people in the last few years preceding, which experience was useful, and codes had been written; and we found these examples were useful. Some things could be copied out of them.

Senator MORGAN. The models you speak of were such as we had created ourselves in Porto Rico and in Cuba and in the Philippines?

General DAVIS. Yes; in the Philippines and Porto Rico especially. We did not do much legislating in Cuba.

Senator MORGAN. No. You found there a body of Spanish laws—Colombian laws.

General DAVIS. Yes; of Spanish origin.

Senator MORGAN. Of Spanish origin, and modified by some local statutes, I suppose, of Panama?

General DAVIS. Yes, sir. Panama, however, had been in existence so short a while as an independent nation that her legislation was very limited in scope. Most of the legislation that was in existence in Panama was of Colombian origin—at least, of Colombian perfection; of Spanish origin.

Senator MORGAN. And under the directions of the President, supported by the provisions of international law and perhaps by the statutes to some extent, you had to adopt as many of the laws of Colombia as were applicable to the situation and not in conflict with the laws of the United States?

General DAVIS. The President's order, under which he set the government of the Zone on its feet, specified that the laws of the land should prevail until they were changed.

Senator MORGAN. And "the laws of the land" meant the laws of Colombia?

General DAVIS. Yes, sir—until they were changed, or unless they were repugnant to the fundamental principles of our Government.

Senator MORGAN. We have, in the first of our efforts at territorial government, embodiments and displays of what we conceive to be the fundamental principles of our Government?

General DAVIS. Yes, sir.

Senator MORGAN. Involving sometimes trial by jury, and sometimes not?

General DAVIS. Yes, sir.

Senator MORGAN. Involving legislation that takes effect and is operative until it is changed and repealed by Congress, which legislation is by nonelective bodies, bodies appointed by the President of the United States, and sometimes two bodies—one appointed and the other elected?

General DAVIS. Exactly.

Senator MORGAN. And they went on under the provisions of the general system of government in the United States and of the Constitution of the United States to formulate laws that those people were compelled to obey as this territorial system sprang up?

General DAVIS. Yes, sir.

Senator MORGAN. There seems to have been no effort at all made at the establishment of a territorial system of government in the Zone as far as we have gone. It is a system such as was established or supposed to have been established for the government of the Ter-

ritory of Louisiana after its acquisition under the treaty with France, and before Congress took hold of it to enact laws which should operate directly through the force of the Congressional action. Have you attempted at all to establish jury trial in the Zone?

General DAVIS. No, sir. It was attempted in Porto Rico; it is authorized by the statute, but the Porto Ricans make very little use of it—very little use of it.

Senator MORGAN. Have you attempted to establish there, practically or otherwise, by your declaration as legislators, the writ of habeas corpus or anything corresponding to it?

General DAVIS. The privileges of the writ are provided for, I think, in the criminal code which was enacted by the Commission, and which is one of the acts that has been printed in the annual report of the Commission. The provision of law applying to Porto Rico was, I have been told by the draftsmen of that law, taken principally as a model. I refer to Judge Magoon, the present governor of the Zone, who was the draftsman of the present criminal code for the Canal Zone.

Senator MORGAN. He was then general counsel for the Isthmian Canal Commission?

General DAVIS. Yes, sir.

Senator MORGAN. And was acting in that capacity in the drafting of that code?

General DAVIS. Yes, sir.

Senator MORGAN. All of which underwent the supervision and examination of the Commission?

General DAVIS. Oh, yes, sir; it was all enacted by the Commission afterwards.

Senator MORGAN. You established courts in that code?

General DAVIS. Yes, sir; under that code there were courts established.

Senator MORGAN. You established an appellate court?

General DAVIS. Yes; a court with three judges was created, and these three judges, meeting together, were granted appellate powers.

Senator MORGAN. These three judges were called district judges or circuit judges?

General DAVIS. I have forgotten exactly the term used to describe them, but they were each assigned to a special, separate district.

Senator MORGAN. They were courts of original jurisdiction?

General DAVIS. Yes, sir.

Senator MORGAN. That tried cases and then sat in banc and heard the cases on appeal?

General DAVIS. Exactly; that is right.

Senator MORGAN. Was any attempt made, or has any attempt been made, either by Congress or otherwise, to give appellate jurisdiction or supervision to the Federal courts of the United States over that isthmian canal?

General DAVIS. I think attempts have been made, and I am not quite familiar with the legislative history of those attempts, but I have the impression that a member of this committee offered a bill in the Senate which was actually passed through the Senate and came into conference, but I believe it was not finally enacted into law.

Senator MORGAN. I do not remember that any law was enacted on that subject.

General DAVIS. No; I think there was none enacted, but you asked me if attempts were made.

Senator MORGAN. Yes; I know that.

(The committee thereupon took a recess until 2 o'clock p. m.)

AFTERNOON SESSION.

The committee met at 2 o'clock p. m., pursuant to the taking of recess.

**STATEMENT OF MAJ. GEN. GEORGE W. DAVIS, U. S. ARMY
(RETIRED)—Continued.**

Senator Morgan submitted a copy of a letter from the President to the Secretary of War, dated May 9, 1904, and asked that it be made a part of the record, which was ordered.

The letter is as follows:

WHITE HOUSE,
Washington, D. C., May 9, 1904.

SIR: By the act of Congress approved June 28, 1902, the President of the United States is authorized to acquire for and on behalf of the United States all the rights, privileges, franchises, concessions, grants of lands, rights of way, unfinished work, plants, shares of the capital stock of the Panama Railway, owned by or held for the use of the New Panama Canal Company, and any other property, real, personal, and mixed, of any name or nature, owned by the said New Panama Canal Company, situated on the Isthmus of Panama. The President is by the same act also authorized to acquire for and on behalf of the United States perpetual control of a strip of land on the Isthmus of Panama, not less than 6 miles in width, extending from the Caribbean Sea to the Pacific Ocean, and the right to excavate, construct, and maintain perpetually, operate and protect thereon, a ship canal of certain specified capacity, and also the right to perpetually operate the Panama Railroad. Having acquired such rights, franchises, property, and control, the President is by the same act required to excavate, construct, and complete a ship canal from the Caribbean Sea to the Pacific Ocean, and to enable him to carry forward and complete this work he is authorized to appoint, by and with the consent of the Senate, an Isthmian Canal Commission of seven members, who are to be in all matters subject to his direction and control.

By the terms of the canal convention between the United States and the Republic of Panama, entered into in pursuance of the said act of Congress approved June 28, 1902, the ratifications of which were exchanged on the 26th day of February, 1904, the Republic of Panama granted to the United States—

First, the perpetual use, occupation, and control of a certain zone of land, land under water, including islands within said zone, at the Isthmus of Panama, all to be utilized in the construction, maintenance, and operation, sanitation and protection of the ship canal, of the width of 10 miles, extending to the distance of 5 miles on each side of the central line of the route of the canal, and the use, occupation, and control of other lands and waters outside of the zone above described

which may be necessary and convenient for the construction, maintenance, operation, sanitation, and protection of said canal or any auxiliary canals or other works necessary and convenient for the same purpose; also the islands of Perico, Naos, Culebra, and Flamenco, situated in the Bay of Panama; and,

Second, all the rights, powers, and authority within the zone, auxiliary lands and lands under water, which the United States would possess and exercise if it were the sovereign of the territory granted, to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, and authority.

By the act of Congress approved April 28, 1904, the President is authorized, upon acquisition of the property of the New Panama Canal Company, and the payment to the Republic of Panama of the price for compensation agreed upon in the said canal convention, to take possession of and occupy on behalf of the United States the zone of land and land under water, including islands within said zone, at the Isthmus of Panama, of the width of 10 miles, extending to the distance of 5 miles on each side of the central line of the route of the canal to be constructed thereon, including the islands of Perico, Naos, Culebra, and Flamento, and from time to time, as may be necessary and convenient, certain auxiliary lands and waters outside the said zone for the purpose of constructing, maintaining, operating, sanitating, and protecting the ship canal, the use, occupation, and control whereof were granted to the United States by the Republic of Panama in the said canal convention.

By the same act the President is authorized, for the purpose of providing temporarily for the maintenance of order in the Canal Zone and for maintaining and protecting the inhabitants thereof in the free enjoyment of their liberty, property, and religion, to delegate to such person or persons as he may designate and to control the manner of their exercise, all the military, civil, and judicial powers as well as the power to make all needful rules and regulations for the government of the Canal Zone and all the rights, powers, and authority granted by the said canal convention to the United States, until the close of the Fifty-eighth Congress.

Payments of the authorized purchase price of \$40,000,000 to the New Panama Canal Company for the property of that corporation on the Isthmus, including the share of railway stock, and for the records in Paris, and of the sum of \$10,000,000, as stipulated in the canal convention, to the Republic of Panama for the rights, powers, and privileges granted to the United States by the terms of the said convention have been made and proper instruments of transfer have been executed by the Panama Canal Company. The members of the Isthmian Canal Commission have been appointed. They have organized the Commission and entered upon their duties. I have taken possession of and now occupy, on behalf of the United States, the Canal Zone and public land ceded by the Republic of Panama.

It becomes my duty, under the statutes above referred to, to secure the active prosecution of the work of construction of the canal and its auxiliary works, through the Isthmian Canal Commission, and in connection with such work and in aid thereof to organize and conduct a temporary government of the Zone, so as to maintain and protect the inhabitants thereof in the free enjoyment of their liberty, property, and religion.

Inasmuch as it is impracticable for the President, with his other public duties, to give to the work of supervising the Commission's construction of the canal and government of the Zone the personal attention which seems proper and necessary, and inasmuch as the War Department is the Department which has always supervised the construction of the great civil works for improving the rivers and harbors of the country and the extended military works of public defense, and as the said Department has from time to time been charged with the supervision of the government of all the island possessions of the United States, and continues to supervise the government of the Philippine Islands, I direct that all the work of the Commission done by virtue of powers vested in me by the act of Congress approved June 28, 1902, in the digging, construction, and completion of the canal, and all the governmental power in and over said Canal Zone and its appurtenant territory which, by virtue of the act of Congress approved April 28, 1904, and these instructions, shall be vested in said Isthmian Canal Commission, shall be carried on or exercised under your supervision and direction as Secretary of War.

Subject to the limitations of law and the conditions herein contained, the Isthmian Canal Commission are authorized and directed—

1. To make all needful rules and regulations for the government of the Zone and for the correct administration of the military, civil, and judicial affairs of its possessions until the close of the Fifty-eighth Congress.

2. To establish a civil service for the government of the strip and construction of the canal, appointments to which shall be secured as nearly as practicable by a merit system.

3. To make or cause to be made all needful surveys, borings, designs, plans, and specifications of the engineering, hydraulic, and sanitary works required, and to supervise the execution of the same.

4. To make and cause to be executed, after due advertisement, all necessary contracts for any and all kinds of engineering and construction works.

5. To acquire by purchase or through proper and uniform expropriation proceedings, to be prescribed by the Commission, any private lands or other real property whose ownership by the United States is essential to the excavation and completion of the canal.

6. To make all needful rules and regulations respecting an economical and correct disbursement and an accounting for all funds that may be appropriated by Congress for the construction of the canal, its auxiliary works, and the government of the Canal Zone, and also to establish a proper and comprehensive system of bookkeeping, showing the state of the work, the expenditures by classes, and the amounts still available.

7. To make requisition on the Secretary of War for funds needed from time to time in the proper prosecution of the work, and to designate the disbursing officers authorized to receipt for the same.

The inhabitants of the Isthmian Canal Zone are entitled to security in their persons, property, and religion and in all their private rights and relations. They should be so informed by public announcement. The people should be disturbed as little as possible in their customs and avocations that are in harmony with principles of well-ordered and decent living.

The municipal laws of the Canal Zone are to be administered by the ordinary tribunals substantially as they were before the change. Police magistrates and justices of the peace and other officers discharging duties usually devolving upon these officers of the law will be continued in office if they are suitable persons. The governor of the Zone, subject to approval of the Commission, is authorized to appoint temporarily a judge for the Canal Zone, who shall have the authority equivalent to that usually exercised in Latin countries by a judge of a court of first instance; but the Isthmian Canal Commission shall fix his salary and may legislate respecting his powers and authority, increasing or diminishing them in their discretion, and also making provision for additional or appellate judges should the public interest require.

The laws of the land, with which the inhabitants are familiar, and which were in force on February 26, 1904, will continue in force in the Canal Zone and in other places on the Isthmus over which the United States has jurisdiction until altered or annulled by the said Commission, but there are certain great principles of government which have been made the basis of an existence as a nation which we deem essential to the rule of law and the maintenance of order, and which shall have force in said Zone. The principles referred to may be generally stated as follows:

That no person shall be deprived of life, liberty, or property without due process of law; that private property shall not be taken for public use without just compensation; that in all criminal prosecutions the accused shall enjoy the right of a speedy and public trial, to be informed of the nature and cause of the accusation, to be confronted with the witnesses against him, to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defense; that excessive bail shall not be required nor excessive fines imposed, nor cruel or unusual punishment inflicted; that no person shall be put twice in jeopardy for the same offense, or be compelled in any criminal case to be a witness against himself; that the right to be secure against unreasonable searches and seizures shall not be violated; that neither slavery nor involuntary servitude shall exist except as a punishment for crime; that no bill of attainder or ex post facto law shall be passed; that no law shall be passed abridging the freedom of speech or of the press, or of the rights of the people to peaceably assemble and petition the government for a redress of grievances; that no law shall be made respecting the establishment of religion or prohibiting the free exercise thereof: *Provided, however*, That the Commission shall have power to exclude from time to time from the Canal Zone and other places on the Isthmus, over which the United States has jurisdiction, persons of the following classes who were not actually domiciled within the Zone on the 26th day of February, 1904, viz: Idiots, the insane, epileptics, paupers, criminals, professional beggars, persons afflicted with loathsome or dangerous contagious diseases; those who have been convicted of felony, anarchists, those whose purpose it is to incite insurrection, and others whose presence it is believed by the Commission would tend to create public disorder, endanger the public health, or in any manner impede the prosecution of the work of opening the canal: and may cause any and all such newly arrived persons or those alien to the Zone to be expelled and

deported from the territory controlled by the United States, and the Commission may defray from the canal appropriation the cost of such deportation as necessary expenses of the sanitation, the police protection of the canal route, and the preservation of good order among the inhabitants.

The Commission may legislate on all rightful subjects of legislation not inconsistent with the laws and treaties of the United States so far as they apply to said Zone and other places, and the said power shall include the enactment of the sanitary ordinances of a preventive or curative character to be enforced in the cities of Colon and Panama, and which are contemplated and authorized by article 7 of said canal convention. Such legislative power shall also include the power to raise and appropriate revenues in said Zone; and all taxes, judicial fines, customs duties, and other revenues levied and collected in said Zone by or under the authority of said Commission shall be retained, accounted for, and disbursed by said Commission for its proper purposes.

The members of said Commission to the number of four or more shall constitute a legislative quorum, and all rules and regulations passed and enacted by said Commission shall have set forth as a caption that they are enacted by the Isthmian Canal Commission "By authority of the President of the United States."

The Commission shall hold its regular quarterly meetings at the office of the Commission either in Panama or at a branch office in Washington, and special meetings may be held at the pleasure of the Commission.

All laws, rules, and regulations of a governmental character enacted by the Commission hereunder shall be submitted to you for your approval, and should your approval be withheld from any such law, rule, or regulation, then from that time the law, rule, or regulation shall thereafter have no force or effect.

Maj. Gen. George W. Davis, U. S. Army (retired), a member of the Canal Commission, is hereby appointed governor of the Isthmian Canal Zone. He will proceed at once to the Isthmus of Panama. He will in my name, as the chief executive in the Canal Zone, for and on behalf of the United States, see that the laws are faithfully executed and will maintain possession of said territory, including the public lands therein and the property, real and movable, on the Isthmus of Panama, except that of the Panama Railroad, that has recently been acquired from the Republic of Panama. He is hereby vested with the power to grant reprieves and pardons for offenses against the rules, regulations, and laws in force by virtue of action of the Commission or by virtue of the clause hereof continuing in force the laws of Panama. In case of his disability or absence from the Canal Zone at any time, the Isthmian Canal Commission is empowered to designate the person or persons to act as governor during such absence or disability. Except as herein prescribed, the duties of the governor shall be fixed by legislation of the Canal Commission.

For the preservation of order and protecting the property of the United States within or without said Zone, as provided by article 7 of the canal convention, an adequate police force shall be maintained. If at any time there shall arise necessity for military or naval assistance the governor shall, if possible, promptly notify you, and in the

event of a sudden exigency the governor may call upon any available military or naval force of the United States to render assistance, and the same shall be immediately furnished.

It is a matter of first importance that the most approved and effective methods and measures known to sanitary science be adopted in order that the health conditions on the Isthmus may be improved. It is the belief of those who have noted the successful results secured by our Army in Cuba in the obliteration of yellow fever in that island that it is entirely feasible to banish the diseases that have heretofore caused most mortality on the Isthmus, or at least to improve as greatly the health conditions there as in Cuba and Porto Rico. I desire that every possible effort be made to protect our officers and workmen from the dangers of tropical and other diseases, which in the past have been so prevalent and destructive in Panama.

Rear-Admiral John G. Walker, U. S. Navy (retired), and Col. Frank J. Hecker, members of the Isthmian Canal Commission, are hereby designated as members of the joint commission provided for by articles 6 and 15 of the canal convention. The moiety of the necessary expenses of the commission to be created in pursuance of articles 6 and 15 of the above-cited canal convention will be defrayed from the appropriation applicable to the ship canal to connect the waters of the Atlantic and Pacific oceans.

The Isthmian Canal Commission will prepare for Congress and place in your hands on or before December 1 of each year a full and complete report of all their acts and of the operations conducted by them in respect to the canal construction and the government of the Canal Zone. These reports will contain a detailed account of all moneys received and disbursed in the performance of their duties and of the progress made in the construction of the canal.

The necessary expenses incurred by the Commission in carrying on the government of the Canal Zone will be defrayed from the local revenues so far as the said revenues may be sufficient, and the remainder will be met from the appropriation made by the fifth section of the act of Congress, approved June 28, 1902. An estimate of the proposed expenditures and revenues for each year in carrying on the government of the Zone will be submitted to Congress at the beginning of each annual session.

By virtue of the ownership by the United States of about sixty-nine seventieths of the shares of the capital stock of the Panama Railroad, the general policy of the managers of said road will be controlled by the United States. As soon as practicable I desire that all the members of the Isthmian Canal Commission be elected to the board of directors of the road, and that the policy of the road be completely harmonized with the policy of the Government of making it an adjunct to the construction of the canal, at the same time fulfilling the purpose for which it was constructed as a route of commercial movement across the Isthmus of Panama. If any contracts or other obligations now subsist between the railway company and other transportation companies that are not in accord with sound public policy, then such contracts must be terminated as soon as it is possible to effect that object.

No salary or per diem allowance of compensation in addition to the stated salary and per diem allowance of the members of the Isthmian Canal Commission will be allowed to any member of the Commission by reason of his services in connection with the civil government of

the Canal Zone, or his membership of any board or commission concerned in or connected with the construction of the canal, or by reason of his services as an officer or director of the Panama Railroad.

If there now be in force within the Canal Zone any franchise granting to any person or persons a privilege to maintain lotteries or hold lottery drawings or other gambling methods and devices of a character forbidden by the laws of the United States, or if the grantee of any such privilege has now the right to sell lottery tickets or similar devices to facilitate the business of the concessionaire, the Commission shall enact laws annulling the privileges or concessions and punishing future exercise of the same by imprisonment or fine or both.

These instructions may be modified and supplemented as occasion shall arise.

Very respectfully,

THEODORE ROOSEVELT.

Hon. WILLIAM H. TAFT,
Secretary of War.

Senator MORGAN. When this Commission took charge of the work there—the Canal Zone—and you took charge as governor, there were a number of citizens of Panama or Colombia—former citizens of Colombia, but then citizens of Panama—who resided within the Zone?

General DAVIS. Yes, sir.

Senator MORGAN. Including the inhabitants both of Colon and Panama, who were subject to your powers as governor and the powers of the Commission in certain particulars that are defined in the Hay-Varilla treaty?

General DAVIS. Yes.

Senator MORGAN. The citizenship of none of those people has been changed by any law of the United States or act of the Commission?

General DAVIS. None that I know of.

Senator MORGAN. The citizens of the United States who have gone there have not forfeited their citizenship here as far as you know?

General DAVIS. No.

Senator MORGAN. Retaining their citizenship they have gone there to transact whatever business they chose to embark in?

General DAVIS. Yes.

Senator MORGAN. That number, besides the employees of the Canal Commission and the railroad, I suppose, is very small?

General DAVIS. Outside of the Commission and the railroads, you say?

Senator MORGAN. Yes.

General DAVIS. Those are few; yes, there are a few merchants—a few individuals who are engaged in business there.

Senator MORGAN. In Colon or Panama or in the Zone?

General DAVIS. Along the Zone also; all three.

Senator MORGAN. But the relative rights and duties and obligations of citizenship have not been changed by any act of which you are aware?

General DAVIS. Not by any act of which I am aware, unless the act of passing out of the specific jurisdiction of the United States by those individuals has affected their status.

Senator MORGAN. When you call it specific jurisdiction of the United States you are going into a classification of the jurisdiction of the

United States, but they pass from one to another; they are entirely under the United States?

General DAVIS. Yes, sir.

Senator MORGAN. You consider the flag of the United States as being entirely at home in the Zone?

General DAVIS. Yes; I consider it is entirely at home there, but whether or not technically we have a right to fly the flag of the United States in the Zone—I say technically—it seems to me might be questionable, possibly.

Senator MORGAN. Have you ever raised one?

General DAVIS. No; and it never will be raised, I think; but since titular sovereignty resides in Panama, I think that proposition has been stated many times—

Senator MORGAN. Unless you can define the word “titular” I do not think I could accept the fact.

General DAVIS. Well, the Hay-Varilla treaty recognizes some shadow of what is called sovereignty as still remaining in the Panama Zone.

Senator MORGAN. As that is a matter of some importance in connection with the question I desire to propound to you I wish to refer you to that treaty for a moment.

General DAVIS. I am not an international lawyer or a lawyer of any kind.

Senator MORGAN. No; but I want to get it in the record, so that men who are lawyers and men who are laymen—there are a great many laymen in Congress, you know—can have some understanding of exactly what we are trying to get at and what the definitions are.

The CHAIRMAN. General, I understand you that the American flag was never floated on the Zone?

General DAVIS. No, sir; that is a mistake. I raised it myself, and I would not have tolerated for an instant the idea that I could not raise it.

The CHAIRMAN. I understood it the other way.

General DAVIS. But I think technically a question might be raised as to the assumption by the United States of every sovereign function, and since the flag seems to be an emblem of sovereignty I merely suggest the question as one that may possibly have two answers.

Senator MORGAN. The article of the Hay-Varilla treaty of February 26, 1904, which is the date of its ratification, reads as follows:

“The Republic of Panama grants to the United States all the rights, power, and authority within the Zone mentioned and described in Article II of this agreement and within the limits of all auxiliary lands and waters mentioned and described in said Article II which the United States would possess and exercise if it were the sovereign of the territory within which such lands and waters are located, to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, or authority.”

It looks to me like it is putting it both ways; that there is not only an affirmation of absolute sovereignty over all these things in that Zone, but there is an express exclusion of any sovereign rights of Panama, so that the titular sovereignty that the General mentions, I suppose, refers to the fact that Panama has lands lying above and lands lying below the Canal Zone and along the borders of the Canal Zone, and that she has the right to extend her authority from one place to another, notwithstanding the interposition of the Canal Zone.

Now, do you understand that Panama has the right to hold any election in the Zone?

General DAVIS. No; and never attempted to.

Senator MORGAN. And if attempted it would be stopped?

General DAVIS. It would be stopped, I am quite sure; it would have been during my time and I presume it would be now.

Senator MORGAN. It is a land of laws in which the people are supposed to be sovereign; it is a republic?

General DAVIS. Yes.

Senator MORGAN. And it has citizens residing there within the Zone who have the right to vote outside the Zone, but not within it?

General DAVIS. Yes.

Senator MORGAN. Now, I assume in the questions I will ask you that that zone is within the absolute sovereign authority of the United States Government for all purposes of government. If there are any trusts connected with it that we are bound to execute, that is a different question; but the right is within us. Now, in virtue of that duty, which is recited in the directions of the President to Secretary Taft, which has been read and inserted in the report, I find certain provisions that I wish to call attention to.

In the seventh section or paragraph of the letter I find the following. This seems to be a bill of rights or restrictions upon the power of the isthmian canal government.

"That no person shall be deprived of life, liberty, or property without due process of law; that private property shall not be taken for public use without just compensation; that in all criminal prosecutions the accused shall enjoy the right of a speedy and public trial, to be informed of the nature and cause of the accusation, to be confronted with the witnesses against him, to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defense; that excessive bail shall not be required nor excessive fines imposed, nor cruel or unusual punishment inflicted; that no person shall be put twice in jeopardy for the same offense, or be compelled in any criminal case to be a witness against himself; that the right to be secure against unreasonable searches and seizures shall not be violated; that neither slavery nor involuntary servitude shall exist except as a punishment for crime; that no bill of attainder or ex post facto law shall be passed; that no law shall be passed abridging the freedom of speech or of the press, or of the rights of the people to peaceably assemble and petition the Government for a redress of grievances; that no law shall be made respecting the establishment of religion or prohibiting the free exercise thereof."

Those provisions seem to be restraints or prohibitions or limitations against the exercise of power on the part of the Commission, but they do not in terms, and perhaps not in intention, confer upon individuals who may be inhabitants of that zone the rights which are said to be protected here against invasion by the Commission. The important part of this matter that I would call your special attention to now is contained in the proviso:

"*Provided, however,* That the Commission shall have power to exclude from time to time from the Canal Zone and other places on the Isthmus, over which the United States has jurisdiction, persons of the following classes who were not actually domiciled within the Zone on the 26th day of February, 1904, viz: Idiots, the insane, epileptics

paupers, criminals, professional beggars, persons afflicted with loathsome or dangerous contagious diseases; those who have been convicted of felony, anarchists, those whose purpose it is to incite insurrection, and others whose presence it is believed by the Commission would tend to create public disorder, endanger the public health, or in any manner impede the prosecution of the work of opening the canal, and may cause any and all such newly arrived persons or those alien to the Zone to be expelled and deported from the territory controlled by the United States, and the Commission may defray from the canal appropriation the cost of such deportation as necessary expenses of the sanitation, the police protection of the canal route, and the preservation of good order among the inhabitants."

Has it ever occurred in your administration that you have found it necessary to exercise this power?

General DAVIS. Several times, sir.

Senator MORGAN. It is hardly worth while to give cases, but what would be the nature of such a case?

General DAVIS. I could not remember names and I could scarcely remember dates with any precision; but I think a few individuals of those classes which sometimes arrive at our immigration stations in the United States from foreign countries and in whose respect the conditions were not fulfilled—that is to say, ones such as are described in that mandate of the President—were informed that they could get out of the Zone or be deported.

In one case, I think I can remember one case where a man was put on board a steamer and sent out of the Zone, and the Commission paid the fare of that man to get rid of him. I can not remember whether he was a gambler or whether he was a crook, but he was some sort of an individual of that kind as I recall it; I can not remember the exact facts in connection with it. I think Governor Magoon has made use of that authority several times since he assumed the government.

Senator MORGAN. In the instances you refer to where you exercise the authority was it done by the vote of the Commission?

General DAVIS. No, sir; it was done as an executive act, the governor being charged with the execution of the laws, and this being one of the laws that were to be executed. I considered this order of the President as legislation, and acting within the provisions of that law and as a representative of the Commission I executed the law.

Senator MORGAN. Now, we may all assume, for there will be no disputation about the point at all, that there is no State or Territory in the Union, on the continent here or under our control, where the governor of such State or Territory, or any other power of the United States, has the right of banishment.

General DAVIS. No, sir.

Senator MORGAN. This is the only case in which it exists?

General DAVIS. The only one that I know of.

Senator MORGAN. Is that an important power to be exercised there?

General DAVIS. I think it ought to be retained by all means.

Senator MORGAN. Now, General, in time of peace that power could not be exercised by any judicial or executive tribunal in the United States except within a territory or zone that was placed under military law, being made a military reservation; so that if you would undertake to exercise this authority anywhere in that zone or anywhere else under the laws of the United States or any other laws you must apply

to the situation, as I understand it, the laws of military power just as they apply to a military reservation in the United States.

Senator HOPKINS. Would not that depend upon the question as to whether the Constitution of the United States extends over that territory? If it does not, then there is no legal objection to a civil officer exercising power of that kind.

Senator MORGAN. The Constitution of the United States, in my judgment, is overwhelming in its application to all situations, both of war and of peace. A state of peace in a country invokes and puts in operation the laws of peace; a state of war puts in operation the laws of war; but we have a further provision of the Constitution upon which is predicated the right to establish rules and regulations for the government of the Army and the militia, which has always been applied, and I think with entire sanction of all authority—the Supreme Court and all other authorities—to any reservation set apart for military purposes, although the country may be in a state of peace.

We have here now, as I understand it, many military reservations in the United States where there exist provost courts for the administration of the civil law within the reservation, at the same time the predominant, the paramount law is military; and at military posts and forts, or any such place—an arsenal, for instance—the commandant has the right to exercise military power for the purpose of maintaining peace and order and preventing any of these things that are suggested by this letter of the President to Secretary Taft, and that is perfectly constitutional, as I understand it, and legitimate, and is according to the settled and uniform practice of the Government of the United States.

The point I make about it is this: That this power can not be retained in any place over which the United States has jurisdiction except that place is under military regimen. If you put it under military regimen the power is perfectly legitimate; if you take it out of that regimen it is unconstitutional, and would not be enforced by any official, executive or judicial, in any of the States, or by the Federal Government.

Now, in organizing the civil courts in the Zone, you have conferred upon them the power to issue all the rights that belong to courts?

General DAVIS. Yes.

Senator MORGAN. Writs of habeas corpus?

General DAVIS. Yes.

Senator MORGAN. And writs of execution, and so forth?

General DAVIS. Yes, sir.

Senator MORGAN. Even to the extent of taking a man's life by hanging?

General DAVIS. I can not remember what the punishment is for the capital offense, but it is according to the code, and the code is printed here in one of the books. I never had occasion to carry out the law in a capital case.

Senator MORGAN. You have established a penitentiary there?

General DAVIS. We have established a place called the penitentiary; it is a lockup.

Senator MORGAN. That is a penitentiary?

General DAVIS. Yes.

Senator MORGAN. And there are numerous convicts there?

General DAVIS. Yes.

Senator MORGAN. And have been heretofore?

General DAVIS. Yes.

Senator MORGAN. Convicted of various offenses which are punishable by the statutes of the Zone?

General DAVIS. Yes.

Senator MORGAN. Punishment by confinement and hard labor?

General DAVIS. Yes, sir.

Senator MORGAN. Now the power to pardon has also been exercised by the governor.

• General DAVIS. And delegated to him by the order of the President.

Senator MORGAN. Yes; delegated to him by the order of the President.

General DAVIS. Yes, sir.

Senator MORGAN. So that there is a certain delegation of civil power there which is exercised in harmony with this power of punishment?

General DAVIS. Yes, sir.

Senator MORGAN. Under the same code and same letter?

General DAVIS. Yes, sir.

Senator MORGAN. Yes. Inasmuch as such powers under the Constitution of the United States and under the form of our government can not be exercised at least toward citizens of the United States and can not be exercised, indeed, toward any persons except through the military arm of the government, is it not logical and do you not think it is our duty to declare that the government of that Zone shall be a government of a military reservation?

General DAVIS. Well, Senator, in your long question, or the prelude to it, you made a statement that provost courts were invoked or that they were used to carry on government within a military reservation, and, as I understood you to say, in time of peace?

Senator MORGAN. Yes.

General DAVIS. That is hardly a fact. The provost court is an instrumentality, the will of the commanding general, exercised only in time of war. I have used that in time of war, but never in time of peace; nor have I ever seen a case where the provost court, so called—that is to say, a military officer or a group of military officers sitting as a tribunal with military bailiffs and military attachés—has ever sat in time of peace; I have never seen it.

Senator MORGAN. Your experience has not been so extensive as mine. After peace was proclaimed in the South, and ratified in every possible form, the provost courts down there continued to perform their functions.

General DAVIS. That was a military occupation that followed the conflict.

Senator MORGAN. Yes; a military occupation is the very point I am going on. I insist that we ought to characterize the occupation of the Canal Zone by the United States as a military occupation, not a civil occupation merely; not for the purposes of ordinary civil government, but a military occupation, so that this order of the President can be justified—which is exactly right; and all of these other laws should be justified where the writ of habeas corpus is within reach of the governing power, the judicial power, or the governing power, and its suspension may be lawfully made without the order of the President of the United States or by any act of Congress.

What I am trying to do is to get this judicial system in the Zone in

something like a logical arrangement, comporting with the principles of the United States which are declared here in the bill of rights, and I understand you to say that you do not think it would be safe to dispense with this right of banishment?

General DAVIS. No; but I call it eviction; it may be the same thing.

Senator MORGAN. Yes; eviction is about the softest word that I have heard applied to it.

Senator DRYDEN. I suppose the man that is put out doesn't know the difference.

Senator MORGAN. And it extends to all classes of people without reference to citizenship, except the individuals that were there before a certain date?

General DAVIS. Yes.

Senator MORGAN. They are exempt?

General DAVIS. Yes.

Senator MORGAN. American citizens are not exempt?

General DAVIS. You mean American citizens who were there anterior to this date?

Senator MORGAN. No; citizens who have come there since then.

General DAVIS. No, sir; they are not.

Senator MORGAN. Taking an employee of the Government who may be a man getting \$3,000 or \$5,000 a year, who becomes a nuisance and a danger to the work we are carrying on there, this order gives you the power to banish him?

General DAVIS. Yes.

Senator MORGAN. Well, that power doesn't belong to any other official in the United States or scarcely in the world. At the same time it is legitimate, provided you put the character of the government upon the right footing, say in your law that this is a military reservation, and then the power comes from that fact, it is a military power exercised in a discretionary way, and the officer is protected. I think that one of the provisions in that law must have been suggested to the President's mind by the fact that certain aggregations or combinations or associations of laborers have grown up in the United States, and pretty much all over the world, which might be very disadvantageous in the canal.

General DAVIS. Of course I can not say what may have actuated him in putting that language in the order. I do not imagine that he thinks the ordinary trades union as it is formed throughout the country would necessarily be a dangerous element. I do not think that that could have been in his mind, although of course I don't know about it.

Senator MORGAN. Suppose some man, black or white or yellow or red—for you have all the complexions there that nature knows about—should come into that Zone for the purpose of organizing a strike among the laborers; would you be authorized to banish him under this law?

General DAVIS. I should think the authority would be sufficient to send him away; yes.

Senator MORGAN. And don't you think the necessity would be extreme that he should be banished?

General DAVIS. I know cases of labor agitators in Porto Rico that were evicted under Spain, and I think ought to be evicted now at any time, and it would be a wise act to do it, in my opinion.

Senator MORGAN. The power to evict a man who may interrupt labor there in any way, and particularly a man who may do it for the purpose of getting up great demonstrations on the part of labor, is certainly a power that the government of the Zone ought to possess. You could not very well get along without it in a mixed community like that, and they are very liable there to have agitations, I suppose?

General DAVIS. I think so; I think we are bound to have them.

Senator MORGAN. And with the negro there that is not abstemious—

General DAVIS. In the way of intoxicating liquors?

Senator MORGAN. Yes.

General DAVIS. I must say this for the Jamaica negro: That he is not a cantankerous individual; he is not a quarrelsome person at all; he is not a drunkard. While I was on the Isthmus I did not see two Jamaica negroes who were drunk.

Senator MORGAN. You do not know about the Spaniards that came from northern Spain, about a thousand of them; how they have worked?

General DAVIS. They came over recently?

Senator MORGAN. Yes.

General DAVIS. The men that live on the shores of the Bay of Biscay—the north of Spain men—are excellent men.

Senator MORGAN. But meddlesome and high tempered?

General DAVIS. Not specially so. Those north of Spain men are excellent laborers.

Senator DRYDEN. If Senator Morgan will allow me to interrupt him, I wish General Davis would state what are the weaknesses of the West Indian negro.

General DAVIS. Laziness.

Senator DRYDEN. That is about all?

General DAVIS. He is not malicious or vicious. There is more or less petty thievery going on among them, but highway robbery and murder are very rare, much more rare than they are among our southern negroes, I think, from my observation.

Senator DRYDEN. They do not think it wrong, I suppose, to pilfer a little?

General DAVIS. I do not believe they do; it is sort of a transfer of possessions which does not mean much to them.

Senator MORGAN. Another reason that suggested itself to my mind, General—and I wish to know whether you concur or not—for making a military zone of this area is the possible danger of riots or belligerent operations among the employees and the like of that that might occur in the Zone or that might occur among the Panamanians in Colon and Panama.

General DAVIS. Yes, sir; of course it goes without saying that the Zone is not and never can be a settled community; that would be an impossibility. Its inhabitants are, you might say, exotic; they are only there for a limited period, and as soon as they get through with what they are there for they leave. Of course a settled community, where the inhabitants have been born there and raised there and lived there all their lives and expect to die there, is one proposition; but with a community such as will exist at Panama, as does exist to-day and will exist until the canal is finished, there is no such thing as public sentiment. That public sentiment is our safety, our balance wheel all over our country—

Senator MORGAN. At home, yes.

General DAVIS. But public sentiment has no force on the Isthmus that I could discover.

Senator MORGAN. Is there any authority that you know of that is more respected by the people of all classes you have mentioned and that we know are there than the military authority?

General DAVIS. There is a very definite, positive respect paid to either an exercise of force or a visible power to exercise it.

Senator MORGAN. They have been raised that way?

General DAVIS. Born and grown up to it; yes.

Senator MORGAN. So it would be very difficult to control them by ordinary civil process, such as arrest and imprisonment in a jail or penitentiary?

General DAVIS. I think that a force should be available, so that in case there was a disposition to disregard the exercise of the ordinary police agencies of the country a stronger force could be invoked, but I doubt very much that it would be necessary to use it. I think the presence of it would serve the purpose.

Senator MORGAN. That is, the presence of the power would dispense with the necessity of using it?

General DAVIS. Yes.

Senator MORGAN. But I was considering it now as a form of government, with the view of impressing the sense of authority of the United States over everybody in that Zone, whether it is not stronger and easier to execute, and less dangerous to the individual people who are controlled in that way, if it appears in military form than in the form of the administration of justice on benches and in courts?

General DAVIS. Well, is that a question?

Senator MORGAN. Yes.

(The stenographer repeated the question.)

General DAVIS. The simpler the government the better, and I suppose a benevolent despotism is the only really perfect government that has been conceived by man. But the simpler this government the better, and if the people of the United States through their representatives in Congress are willing to delegate that power to the governor of the Zone or to the President, so that he may name a governor of the Zone with those attributes, I should say it would be very desirable. But I have always had some doubt as to the willingness of the people of the United States to delegate such power to anybody, I have always thought that there would be a hesitancy on the part of you gentlemen to do it. It has seemed to me, from what I have read and studied of these things, that that might not be willingly accorded.

Senator MORGAN. My view of that situation is that we can not do it unless we subject this area over which this Government prevails to military law in time of peace as well as in time of war.

General, in the administration of this office you have had to be very painstaking, I suppose, and very active?

General DAVIS. I have done my best to discharge my duties. I do not claim any particular credit for that.

Senator MORGAN. No; I am not speaking of the credit; I am speaking of whether it has been a duty that was onerous.

General DAVIS. It was. The year I spent at Panama was perhaps a year of as great anxieties and as hard labor—mentally, of course—harder than any I can remember in my life.

Senator MORGAN. Either in Porto Rico or Cuba or the Philippines?

General DAVIS. Yes. Not because of the difficulties in the government per se, but on account of the inherent difficulties of the situation, without a definite knowledge as to the extent of the power of the governor, on account of the presence of a neighboring authority that pretended to certain powers of its own, even those that looked to the control of the judiciary in some instances, and since it was of the utmost importance, as I felt and as it was impressed upon me, to get along harmoniously with this neighboring authority, the sovereign Republic of Panama, it was always a source of considerable anxiety to me to know just how to direct my steps so that friction could be avoided, so that harmonious results could be obtained.

The absence of any idea of summary action I endeavored always to inculcate among my subordinates—among those I relied upon to assist me in carrying on the work—and so it left a situation with some anxieties. But I do not know, if I had it all to go over again, whether I could do any better.

Senator MORGAN. Have you any suggestion of any important law for the control of that Zone that you think ought to be enacted?

General DAVIS. I think this basis of government that has been announced by the President (on the 9th of May, 1904), together with certain Executive orders that have since been published, and certain legislation that has been enacted by the Commission since, furnish a basis of governing the Zone that can be carried on practically. It is not the simplest form of a government that can be conceived, but it is being applied now, as I understand, without friction and without special difficulty. I learned that by conversations with Governor Magoon, who has been here recently, and he seems to be getting on well and without friction or difficulty.

As an ideal proposition I think the vesting of a chief executive in the Zone with very considerable executive power, and simplifying the application of that power as much as possible, is desirable; but I would hesitate to attempt to point out in detail how that variation might be effected. It would be a difficult matter. It is one involving a great deal of study, for while the Zone is a little place, is a small affair in territory, is small in population, yet a single individual who resides in it has certain rights, or what he feels to be his rights, and those are just as important to him as if he lived in the city of New York or Paris or London, and therefore a proper regard for the rights of the individual is just as important to the governor of the Zone as it is if he were governor of Illinois.

Senator MORGAN. Was there any friction of any important character between the Government of Panama and the government of the Zone?

General DAVIS. Friction of an important character? That would depend upon the point of view individually. I do not think there was, and I do not know of anybody by name who did, but the newspapers made much of it and a great deal was published about friction existing between the governor and the Republic of Panama, and all kinds of stories were printed and falsehoods circulated without end, and public sentiment was created, perhaps.

I don't know whether I would say that there was a public sentiment, but there was a sentiment expressed very generally in newspapers throughout the country that there was great necessity on the part of the Administration to harmonize these questions at issue between

the governor of the Zone and the Republic of Panama, and whether that was the cause of action or not I don't know, but Mr. Taft visited the Isthmus in, I think it was December or February, 1905, and had very full and free discussion of these various questions that were then the subject of some irritation with the President of the Republic and his cabinet, with the governor of the Zone and his officers, and as an outcome of that discussion a new basis of treating certain questions was established.

Senator MORGAN. Established temporarily?

General DAVIS. Well, established for the time being. All of this is temporary, I suppose, until Congress shall act. But he established certain bases of action and put them into force. And the authorities of the republics were very happy over it, felt that they had accomplished a part, at least, of what they set out for, and the administration of the government under those modified instructions went on without friction or difficulty, and the rules were carried into effect just as before.

Senator MORGAN. These questions that had to be settled related to commercial and financial affairs?

General DAVIS. Largely so; yes, sir. The authorities of the Republic insisted that they were partners in a certain sense with the United States in the exercise of judicial functions in the Zone. The minister of foreign affairs addressed me letters on that subject asking me to arrange with him for the appointment of a commission looking to the adjustment of that question, which I declined to do; but I know that he insisted that certain functions of government still resided in the Republic of Panama with respect to the Zone. Since then, so far as I know, he has not revived that question.

Senator MORGAN. Did that question arise in consequence of some judicial action taken in the Zone?

General DAVIS. I think it arose in respect to some particular court's proceedings. Some man had a cause in hearing in the courts of the Republic before the Zone was established. When the Zone was established and this judicial proceeding had not yet been concluded the judge handling that case passed it over to the minister of foreign affairs of the Republic, and he passed it over to me as governor, and I referred it to the judge of the district court, or the proper court, so that it might be concluded in that court.

Now, I know that that was one case. Another was a case of similar nature that had been carried partly through its career and had not been transferred to the governor of the Zone. The authorities of the Republic thought, probably—of course I can not say what they thought, but only judge of their thoughts by their actions—thought, probably, that they had some rights still vested in themselves in regard to the handling of these cases, and some such case as that was not transferred, whereupon the plaintiff invoked the authorities in the Zone to open the case de novo, as the property involved was situated in the Zone. That resulted in this controversy and discussion, and resulted in the proposition made to me by the minister of foreign affairs to appoint a commission for the purpose of considering and adjusting this whole matter. As I said before, I declined to enter upon that.

Senator MORGAN. In a criminal procedure in the Zone, were any exceptions taken to the judges in the courts by the Panama Canal Company?

General DAVIS. No.

Senator MORGAN. There was a lottery case that came here.

General DAVIS. Yes.

Senator MORGAN. Did that originate in one of your courts?

General DAVIS. Yes; that originated by orders given to the chief of police to arrest men carrying on gambling operations in violation of the local law, the law applicable to the Zone. The arrests were made. They happened to be Chinamen, I think, and those men were brought before the municipal courts—the lowest court—and remanded to a higher court, and then bonds were given for appearance and an appeal taken, and finally, in some way or other—I don't know how and I never could quite understand how—they managed to get the case before the Supreme Court of the United States.

Senator MORGAN. On a motion for certiorari, I think?

General DAVIS. Yes.

Senator MORGAN. And the Supreme Court declined to take jurisdiction?

General DAVIS. Yes.

Senator MORGAN. And so the judgment of the Zone court stood?

General DAVIS. Yes.

Senator MORGAN. And has been enforced?

General DAVIS. Yes.

Senator MORGAN. Did the governor of Panama complain of that judgment?

General DAVIS. No, not to me; if so, it has been since I left there.

Senator MORGAN. And that was a lottery law that claimed to have been enacted by Colombia or Panama?

General DAVIS. By Colombia.

Senator MORGAN. Granting a gambling franchise?

General DAVIS. A monopoly of gambling, yes; for which a man paid a certain sum.

Senator MORGAN. Just what does that mean—"monopoly of gambling;" does that mean all kinds of gambling?

General DAVIS. I am not certain that it means all kinds, but he was privileged to conduct the kind of gambling that the people of Panama engaged in, which is the usual gambling, I think, principally roulette; I have forgotten now what else. Roulette I think is the principal gambling game that they engaged in. He had the right to conduct under this franchise all those games and was required to pay over to the Republic a stated sum per month or quarter.

Senator MORGAN. And that concession or monopoly extended down into—

General DAVIS. It expired some months ago and has not been renewed.

Senator MORGAN. And was in force at the time you were there?

General DAVIS. Yes.

Senator MORGAN. So you succeeded in stopping gambling?

General DAVIS. Yes; that was stopped absolutely. There is no gambling in the Zone carried on now unless it is done secretly and by connivance.

Senator MORGAN. There is none carried on under a license?

General DAVIS. No, sir; there is none carried on under a license, and the chief of police had from me and has from the present governor orders to prevent it, and he has been told in effect that this gambling

can not exist without his knowledge, and if it does go on the governor will know that he is incapable of enforcing the law and will get some one else.

Senator MORGAN. That seems to cover sufficiently the question of judicial friction, if any has arisen. Now, about the commercial friction that arose there; what was the character of that?

General DAVIS. That was largely based on a misapprehension—an idea that merchants of Panama conceived that their trade was going to be taken from them by a combination of circumstances that were to come about through the fact that the United States was going to implant in the Canal Zone the fiscal system which we have in the United States; that is, that the Dingley rates of duty were to apply to all importations into the Zone. They thought that we intended to bring into the Zone everything that we needed for our own use or that offered for sale in private establishments likely to be required or used by the inhabitants of the Zone—men, women, and children—in other words, that free trade between the United States and the Zone was to exist.

They said that if this is the case, then, as the limit of the Zone is an undefined one, as it is simply a question of crossing the street in some cases, as the country is covered with a jungle in large parts, goods brought into the Zone free of tax or duty can be spirited across the border and their own revenues depleted unless they had some control over the entry of those goods into the Zone in the first place. Now, that was their fear. The entry and clearing of vessels to the two ports, Christobal and Colon, which were two new ports created by executive order of Secretary Taft, was an evidence in their minds that this very danger was impending and was certain to exist, and that the effect of it was going to be very disastrous to them. These representations were made and circulated.

They felt that for the United States to enter and clear a vessel from La Boca, which was called the port of Ancon, a new name that was applied to that municipality, was an act which infringed the rights of the Republic. The Hay-Varilla treaty describes how certain harbors and ports are to be treated—that is, the ports of Colon and Panama. They considered that the harbor of Panama included La Boca.

It seemed to me that it could not possibly be so; that the United States could not possibly admit that La Boca, a part of the canal itself, the very prism of the canal which we have bought and paid for—that we could not possibly admit that that particular piece of the canal prism $2\frac{1}{2}$ miles from the city of Panama and 3 or 4 miles away from what was formerly and what has usually been called the harbor of Panama—it did not seem to me possible that the United States could tolerate the idea that La Boca—that is to say, the mouth of the canal on the Pacific side—could be conceded to be within the exclusive jurisdiction of the Republic of Panama, and upon that basis I negotiated with the authorities of the Republic and endeavored to arrive at a *modus vivendi* in respect to the limits of the Zone.

That was one of the first things I did after I arrived on the Isthmus. And fortunately—I say fortunately because Secretary Taft has so described it—an arrangement was arrived at, and then the governor of the Republic, Mr. Arias, was the minister of foreign affairs, and an agreement was arranged delimiting the Zone territory on a provisional basis until it could be taken up and decided by a higher authority.

Now, the doing of this brought about a state of affairs in the Republic which seemed to them to indicate the certainty that these trade conditions were to prevail; that if they prevailed the interests of the merchants of Panama would be greatly impaired.

Their representations to the authorities of the Republic brought about this condition which I have referred to earlier in my remarks; that is, a condition where it was said in the public press that friction existed between the governor and the authorities of the Republic. Now, those were adjusted by Secretary Taft; they were harmonized by concessions on each side, perhaps. I think certainly there were concessions on each side, and a basis was arrived at that has been in operation since, satisfactorily in operation since, as far as I know.

Senator MORGAN. That is what is embodied in what is called the *modus vivendi* and is already in our records.

General DAVIS. Yes; that is in your record.

Senator MORGAN. And we will not go into an examination of that; at least I will not.

General DAVIS. It has worked very well and it applies to the trade and applies to the postal system and applies to the entrance and clearance of vessels.

Senator MORGAN. And to the fiscal system; the money?

General DAVIS. Well, that was not embraced in the agreement I made; that was not in that.

Senator MORGAN. That was subsequent; yes.

General DAVIS. A subsequent agreement. But his later arrangement with the Republic covered that fiscal matter. I never had anything to do with that fiscal matter; that never came to me at all.

Senator MORGAN. At the time you were there as a member of the Commission and governor of the Zone did you recognize that there were any material difficulties in the money that was in circulation, using it for canal purposes?

General DAVIS. There were inconveniences, yes. When I arrived there the money in circulation in the country was the Colombian silver, the peso and the media peso and the smaller denominations, fractional currency. That money was a coinage that was applicable to the whole of Colombia, but it did not circulate except on the Isthmus of Panama. That is, it was money of Colombia proper, but on account of the issue of paper money in Colombia it did not circulate in Colombia. It disappeared entirely from circulation in Colombia, and the exchange for silver in the Columbian markets was 10,000 to 1, paper for silver.

But Panama always maintained a metallic basis for its currency; even before the secession or independence it always had a metallic basis for its currency. That is to say, there was nothing marked on these Panama Colombian dollars to indicate that they pertained particularly to Panama, but the fact was that they were in circulation nowhere else but on the Isthmus of Panama. And there it was the only money in circulation, except a small amount of English money, or American money, or French money, and some little Peruvian money.

Generally the money in circulation was this Colombian silver dollar, with no other mark on it than the Colombian mark, and which was a legal tender in the Republic of Colombia everywhere, but practically out of use in the Republic except in Panama. The French in carrying on their work had proceeded on just the same basis that we

would proceed if we were doing a piece of work in France; that is to say, in paying off labor we would buy francs and disburse francs and their other denominations to our laborers, supposing we were carrying on our work in that way; the Frenchmen did exactly the same thing.

They had every two weeks a certain bill to pay for the labor of those two weeks. Calculating it, they went to banks and bought that amount of Colombian silver and then disbursed it. The money came into their hands and passed out into the hands of their employees, and in a little while it would come back into the hands of the bankers and merchants.

Senator MORGAN. And they would pay for that Colombian money by exchange on Paris?

General DAVIS. That is the way the Frenchmen did. When I arrived there with instructions to carry on the work as the French had carried it on, I had no discretion and I proceeded in the same way. When our first day for paying came around our disbursing officer said, "I have some United States money here but no local money, and these men are in the habit of getting their money in Colombian silver." I said, "Post up an advertisement asking for bids for furnishing as much money as you want for your next pay day, and submit those bids to me."

He posted up that notice, advertised for bids, and told these people that he would give them checks on the assistant treasurer in New York for the amount of silver that he wanted to buy for use in disbursement to our employees, and that he would accept bids for the whole or any part of that, depending on which was the lowest. He submitted an abstract of those bids to me, checking off against each the aggregate, and we accepted the lowest bids. I approved the schedule and ordered him to make the purchase of silver, and he bought it and disbursed it. And the vouchers were submitted to the Treasury Department and they showed that these particular men were paid by money derived in such and such a way, and the rate of exchange would be stated, so that everybody who handled the papers would know everything that occurred in regard to the transaction.

That continued, and our disbursements became larger as time went on, and business became more and more important. It was a business that the bankers did not relish; that is, the way we administered it they did not relish. We asked for public bids for this money; we treated it as a merchandise and told the merchants of the Isthmus that we wished to purchase so many articles called pesos, and asked them what price they would sell for. The Frenchmen had not proceeded that way; they had gone to the bankers and had said, "What is your rate to-day on Paris?" Then they would get the quotation, and then they would get the amount of silver necessary to pay off their men and pay for it with a draft on Paris, and the public knew nothing about it.

The bankers, Ehrmann & Brandon, and the other banking house there were not pleased with this method that we Americans pursued of publicity, and there was a good deal of criticism about it—mere criticism, which did not amount to anything; it never bothered anybody, but still there was a feeling that the banker was treated with scant courtesy. In other words, I remember Mr. Brandon on one occasion said to me: "We will furnish you with all the money you want if you come to us for it, but we are not going to bid for it in competition with every Chinaman and every other fellow here who

wants to bid. We are bankers, and we will not put ourselves on a level with all these people." But it didn't make any difference; we got all the money we wanted.

Of course there was a constant desire on the part of the people who bid to get as high a price as possible for their silver, and the rate was continually fluctuating. I think we bought it at a rate as high as 115 or even 120—that is to say, it sold for 215 in silver, 220. I don't know but what in some instances it went as high as 225. It was continually changing up and down, and it is very unsatisfactory to have a money that was so fluctuating as that, and the conditions were as I say. Later on the International Banking Corporation of the United States, incorporated, I think, under the laws of Connecticut—

Senator MORGAN. New York, was it not?

The CHAIRMAN. Under the laws of Connecticut, I think.

General DAVIS (continuing). I thought it was Connecticut—established a branch bank on the Isthmus and the manager of that bank had the idea that he was going to control the whole money situation; that is, he had an idea that the Government of the United States was going to deposit with him a large amount of currency and that in consideration of that he could afford to furnish to the disbursing officers the necessary amount of local silver. This was before the Panama silver had come into use. He thought the Government of the United States would keep a large enough deposit with him to justify him in doing that.

It was found that the national banking act did not apply to the banks maintained outside the territory of the United States, and so they could not establish a national bank on the Isthmus. That proposition failed, and then the new coinage came into use, brought about in the manner in which you know, and concerning which I had nothing whatever to do. It came into use. The agent of the International Banking Corporation at first said: "I am going to try to handle this whole thing for you without charge—I am going to try to do it. I don't know whether I will succeed or not, but I am going to make an effort."

The first two or three months after the new Panama currency came into circulation the International Banking Corporation received from our disbursing officer his checks on the assistant treasurer in New York at par, and paid over the money at par; that is to say, for \$1 of the United States money he gave the disbursing officer \$2 of Panama silver. He said: "I don't know how long I can keep this up, but I am going to attempt it." I know it continued for about two months, and then the quadrilateral agreement was made which you have taken so much testimony about.

That agreement was entered into by the four banking houses. They all agreed among themselves, severally, but not conjointly, I think, to supply the disbursing officer with all the money he wanted at par. Since then I understand that plan has been continued and the disbursing officers have received Panama silver for United States checks on the United States assistant treasurer in New York at their par value in gold; that is, \$2 Panama silver for \$1 American paper or gold. The arrangement that was made has worked well enough, so far as I know.

The only unfavorable feature of it, I think, is that if an employee of the United States wishes, out of his accumulated savings on the Isthmus, to send a check home, he can not go to the disbursing officer

and get it without expense, but he has to go to a banker and pay for it. I think it is three-quarters of 1 per cent, or something like that, that he is charged. I don't think that is fair, and it ought not to be, but is not a very important matter, and is one concerning which I had no instrumentality in any way.

The statement has been made in respect to this money that it would not be possible to use American money on the Isthmus without great inconvenience; that it would result in the enhancement of the price of everything. It had been urged that if you would pay the laborers of the United States in American money, and since a coin of the size of their peso would cost that employee twice as much as the peso—that is to say, it would pay for twice as much labor as the peso would pay for—that he would see no reason why that particular coin of such a size should be worth more than another coin of the same size. That is the argument, I think, that has been made here, and I suppose there is some basis for it.

But the experience I have had on the Isthmus, coupled with the experience had in Porto Rico, when they changed the money of Porto Rico, has made me come to this conclusion: That if I had it all to do over again and it was an original proposition, instead of one that has been handled by others and settled in a certain way, I would go at the thing exactly the other way; I would pay every man for every day he earned or every commodity I purchased on the Isthmus of Panama in United States money; I would pay out the greenbacks or gold or silver, just as the case might be, at its face value, and I would expect that what would certainly happen would be that within a month or two or three everybody would adjust themselves to the situation. It worked exactly that way in Porto Rico.

Senator HOPKINS. May I interrupt you?

General DAVIS. Certainly.

Senator HOPKINS. Is there not this difference between Porto Rico and Panama: That in Porto Rico you have a considerable community and that on the Isthmus down there you are getting people from Martinique and from that place and this place, and they are constantly changing?

General DAVIS. Yes sir; but there is a great permanency; there is a great stability as respects nationality of the people who are now flocking to Panama. That is to say, they are English or French negroes. Those English and those French negroes in Jamaica and Martinique and Guadaloupe have no knowledge of any other money than gold; they never saw a coin that does not represent gold value; there is not one of them in Jamaica that knows about any money except shillings.

Senator HOPKINS. It seemed to me that it would be very proper to use American money in Porto Rico, because that is a permanent civilization there, and it has a more permanent population; that is, to be a part of the possessions of this country for all time, and hence the quicker that they learn the methods that we use in a financial and commercial way the better for them. The quicker they become familiar with American money the better it is; but I do not think that idea would prevail to that extent on the Isthmus.

General DAVIS. There are two facts in regard to that matter that I think I may refer to, with your permission, that may have a bearing upon it. The exchange made for the money of Spain for the money of the United States in Porto Rico was on a basis of 70 for 100; that

is to say, we paid 70 cents for one of their dollars, and we took up all of the Spanish money in circulation in Porto Rico—which, by the way, every coin of it, had the words “Porto Rico” stamped on it—and brought it to Philadelphia and melted it up. But we paid for it an American 70 cents for a Spanish 100 cents.

The other fact I wanted to refer to is this: I said if this was a new proposition I would proceed so and so; but it is not a new proposition, and what has happened makes my remarks perhaps inapplicable, and that is this: The Secretary of War and a commission appointed by the Republic of Panama to discuss this subject of a currency for Panama have arranged a certain *modus vivendi* or basis for understanding, or protocol, or whatever it may be called, and under that the Republic of Panama has gone to work and coined \$3,000,000, and that puts the thing on a different basis entirely.

We have encouraged them to do that. We not only got them to coin \$3,000,000, but then we found that there was a deficiency of money for circulating purposes, and then we asked them to coin another million, which they did. So it is not an original proposition, and we can not revert to the status quo ante, and I only remarked if we were to start all over again that would be my idea of the way to treat it.

Senator MORGAN. I would like to ask you to give a description, first, of the taking over of the property of the Panama Canal Company and Railroad Company by the United States. You were there, I believe, and conducted that operation?

General DAVIS. Not exactly, Senator; but I will explain. The passage by Congress of an act authorizing the President to organize a government for the Canal Zone, which I think was approved about the 1st of April, 1904—I am not sure of the date, but that is about the date, I think—upon the approval of that act instructions were sent to Paris by the proper officer of the Government (I don't know who) to take over the property of the new French Canal Company and to arrange for the payment of the money. All I know about that is what I have read.

At the same time that order was given, concurrently with it or concurrent with the actual taking over of the property in Paris, I think instructions were sent to an officer of the Army, on the Isthmus of Panama at that time. I refer to Lieutenant Brooke, of the Corps of Engineers. Those orders directed him to receive from the director-general of the Panama Canal works on the Isthmus all property of the Panama Canal Company. I was at that moment in this city. This telegram was sent to Lieutenant Brooke and was received by him on the 3d of April and, if I remember correctly, was acted upon on the 4th of April, the director-general of the New Panama Canal Company on the Isthmus having received the same day instructions from the Paris office to do exactly the same thing.

Upon receipt of those instructions by cable Lieutenant Brooke waited on Mr. Renaudin and took over from him the property of the New Panama Canal, situated on the Isthmus of Panama, including all its offices, drawings, works of all sorts and kinds. I may be wrong about the date; upon reflection I do not think it was the 4th of April, but the 4th of May; I think I was a month off in stating my dates. But that is not very important. I arrived on the Isthmus on the 17th of May. This transfer had taken place, I think, on the 4th of May. I found Lieutenant Brooke in charge of the works, so that my functions

in connection with the transfer of the control of the property were almost nil, the transfer having been effected about ten days before I arrived there, and all the correspondence between Lieutenant Brooke and Mr. Renaudin is all printed in one of these documents which you have before you.

The transfer of the Panama Railroad was never made to me at all. The orders I received from the president of the Isthmian Canal Commission, I think, dated the 8th of May, directed me to proceed to the Isthmus and take over from Lieutenant Brooke all this canal property, but specifically excepted the Panama Railroad, so that I had no authority over the Panama Railroad at all.

Senator MORGAN. Was the railroad property taken over at the same time that the canal property was taken over?

General DAVIS. The railroad property was never taken over at all in a physical sense. The United States purchased 68,900 shares of the Panama Railroad stock from the New French Canal Company, and the control of that stock permitted the Government of the United States to control the board of directors and put new men in office and control the management through the board of directors. So that in a physical sense there was never any transfer of the property of the Panama Railroad Company to the United States. I had nothing to do with it, and I am only speaking of that by general information.

Senator MORGAN. That is to say, there was no actual delivery?

General DAVIS. No; none at all.

Senator MORGAN. But the property went into the possession of the United States?

General DAVIS. Oh, of course it went into the control of the United States through its own agents, the directors.

Senator MORGAN. From the date of the transfer of the Panama Canal?

General DAVIS. When transfer of the Panama Canal was effected, an annual election had taken place only one month before, I think. The annual meeting of stockholders, I think, occurs in the first week in April, and the transfer of the canal property was made in May, and a new board of directors had been elected and gone into office for the Panama Railroad on the 1st of April. They are elected for one year; they stay in office during the remainder of the period for which they are elected, unless they see fit to tender their resignations earlier, or for some reason a vacancy occurs.

So that some of the board of directors who had been chosen while the canal company was the owner of the stock remained in office until the next annual election took place. I think there were a few changes made, meanwhile. I think several members of the Isthmian Canal Commission, the old Walker commission, were elected to places on that board of directors on account of the resignations of other persons; but there was no general change of the directorate of the railroad until the ensuing annual meeting of the stockholders took place.

Senator MORGAN. In April, 1905?

General DAVIS. In April, 1905.

Senator MORGAN. Do you know of any order of the board representing the Panama Railroad Company transferring its property to the United States?

General DAVIS. No, sir; I do not know anything about it; I never sat with them in a board meeting in my life.

Senator MORGAN. You were not a member of the board?

General DAVIS. I believe I was elected a member of the board of directors while I was on the Isthmus, but I never met with my colleagues at all. I remember I was informed that one share of stock was put in my name, and I was sent a check for \$5 in payment of a dividend on the stock, which check I indorsed over to the Secretary of War, and that closed the incident so far as I had anything to do with the stock of the Panama Railroad Company. As I have said, I never met with the board at all.

Senator MORGAN. But you met with the Isthmian Canal Board.

General DAVIS. With the Isthmian Canal Commission, yes; I think they had eighty-five meetings, and I think I was present at seventeen of them.

Senator MORGAN. Were you present at the first meetings?

General DAVIS. Yes; a few of the first, and then three or four or five or six in August.

Senator MORGAN. But nearly all those meetings were held here in Washington?

General DAVIS. Yes.

Senator MORGAN. And you remained in charge at Panama?

General DAVIS. I was at Panama for a year, except in the middle of the summer for two weeks, when I was in the United States on a special personal errand.

Senator MORGAN. I notice that on the 20th of May, 1904—that is, while you were governor?

General DAVIS. Yes; I was on the Isthmus, then.

Senator MORGAN. And you were a Commissioner, then?

General DAVIS. Yes, sir.

Senator MORGAN (continuing). The following letter was laid before the Commission:

“WASHINGTON, D. C., May 20, 1904.

“Rear-Admiral JOHN G. WALKER,

“Chairman of the Isthmian Canal Commission,

“Washington, D. C.

“SIR: The New Panama Canal Company, through its president, and Mr. Cromwell, its American counsel, has notified the President that it is desirous of taking up and disposing of the question of compensation claimed by the New Panama Canal Company for construction upon the new Panama Canal during the negotiations that have just terminated in a transfer of that property to the United States. I am directed by the President to notify you that he will expect the Isthmian Canal Commission to take up the question with the New Panama Canal Company with the view of determining what the facts are in relation to this claim, to the end that if possible when the matter ultimately comes before the President for decision it will involve only the question as to whether or not the claim is well founded and he has authority to pay it.

“Yours, respectfully,

“P. C. KNOX, Attorney-General.”

You became acquainted with that demand at that time?

General DAVIS. I was not present then, as you see. I was on the Isthmus; but copies were sent to me, and as I read them I of course became familiar with what had transpired in the Commission as recorded.

Senator MORGAN. Was this subject ever brought to the attention of the Commission while you were present?

General DAVIS. No, sir; never at any board meeting at which I was present. I have heard the members of the Commission talk about it in an informal way, but I have never heard it discussed formally or officially at any meeting at which I was present.

Senator MORGAN. Was not the date of the taking over of this property in Paris the 16th of April, 1904?

General DAVIS. I think that was the date when the title papers were passed; but the instructions sent to Lieutenant Brooke on the Isthmus were not until later than that. I can not remember now exactly the date, but they were later than that. I think that is the date of the actual transfer of the papers, but I think some time was consumed in passing them through their various stages.

Senator MORGAN. The paper I have just read to you is dated the 20th day of May.

General DAVIS. Yes.

Senator MORGAN. I find on page 60 of the proceedings of the Isthmian Canal Commission, from March to September, 1904—during all of which time you were a Commissioner, were you not?

General DAVIS. Yes, sir.

Senator MORGAN. I find the following:

“DEPARTMENT OF JUSTICE,

“Washington, D. C., March 10, 1904.

“MR. WILLIAM NELSON CROMWELL,

“General Counsel, New Panama Canal Company.

“SIR: I have received your letter of the 9th instant concerning work done on the Panama Canal since execution of the work included in the Isthmian Canal Commission's estimate of \$40,000,000 as the value of the Canal Company's property. The President directs me to say, that without committing himself to any proposition of fact or law stated in your letter, he is willing to determine what amount, if any, the company should receive on account of such work in addition to the price of \$40,000,000 agreed upon.

“Respectfully,

“P. C. KNOX, *Attorney-General*.

“Signed at Paris, France, April 16, 1904, by W. A. Day, assistant to the Attorney-General; by Charles W. Russell, special assistant Attorney-General.”

That letter seems to have been withheld from delivery to Mr. Cromwell from its date, the 10th of March, 1904, until April 16, 1904, and antedates the letter of Mr. Knox that I have just previously read by one month and four days.

On that date the minutes of the Commission show that Mr. Cromwell made the following statement:

“Gentlemen, upon the statement of the case, which I have read for your information, I recently applied to the President to proceed with the arbitration, and he divided the work of his duties into branches. He has, as I understand it, referred all questions of fact concerned in the claim to the Commission for its advice, and all questions of law to the Attorney-General; so that upon the Commission's report the whole

matter may be considered and determined by the President, with the advice of the Attorney-General.

"Following the general basis of the claim, which is embraced in the communications which I have read to you, I have delivered to the Attorney-General, for the President, the detailed statement of claim, of which I now hand you a copy for your own use. You will, of course, want to examine this statement of claim more in detail; but I will now read so much of it as I think will assist you at this session."

And then he goes on to present the claim. It covers several pages, and an affidavit is made to the claim by Mr. Louis Chorin, who was the chief engineer of the new Panama Canal Company.

General DAVIS. He was.

Senator MORGAN. Were you ever present at any time when that claim was being considered by the Commission?

General DAVIS. I never was.

Senator MORGAN. Did you ever have any conversation with Mr. Cromwell about it?

General DAVIS. Never: not a word.

Senator MORGAN. Do you know what the opinion of the Commission was as to the validity of the claim? It seems never to have been taken to final settlement.

General DAVIS. I have been told by members of the Commission that they made a report, that they sent that report to the Secretary of War, in which they expressed the opinion that there was no basis whatever for the claim, but I never saw the document and only know of that from verbal statements made to me.

Senator MORGAN. Do you know whether that claim is being pressed before the Department now?

General DAVIS. No; I do not know officially. I have no official knowledge on the subject, although I have heard it as a matter of common conversation that it is being pressed.

Senator MORGAN. One of the present Commissioners stated the other day that he was examined about it in the Department of Justice.

General DAVIS. I had heard that also.

Senator MORGAN. As I understand this claim, it dates from the date of the first proposition of the Panama Canal Company made to Admiral Walker for the sale of the property of the Panama Canal Company, including its shares of stock and all the property on the Isthmus.

General DAVIS. I have had the same understanding, although I do not know. I have not read with any great care the presentation there made by Mr. Cromwell himself. That would disclose the scope of it, I think.

Senator MORGAN. I want to ask you in connection with that claim, what was the condition of the work on the Isthmus in regard to opening up the canal and completing it at the time you first saw it?

General DAVIS. You mean the extent of progress?

Senator MORGAN. Yes.

General DAVIS. The condition as regards points of activity?

Senator MORGAN. Activity, and also the character and condition of the machinery, and anything else about it.

General DAVIS. To answer the last part of the question first, I should say that you might as well eliminate the machinery as having any particular value. There was some value in the stuff that was under stor-

age; there was some value to the buildings that existed on the Isthmus; there was some little value in some of the machines; we got some useful work out of some of the machines; but taking it altogether, I should state its value as a very small one.

The points of activity—there was only one, and that was the Culebra notch. There were five or six or seven hundred men at work there when I arrived there. When I first visited the Isthmus they were using one of the old French excavators; perhaps two of them were used during the first few months. They were dropped out pretty soon. The old French cars were being used, the French locomotives, Belgian locomotives, and the plant in use consisted entirely of the old French plant. That one point of activity was the only one. They had gone on with it until they had brought the bottom of the Culebra cut down to 165, as I remember, or maybe to 155—one or the other—they were taking out about 30,000 yards a month, as I recollect; maybe it was that many meters a month; 30,000 or 35,000 yards a month.

The records show that they had not very long before had an output as high as 60,000 or 70,000 yards a month with a larger force at work. Two years before that they had had 1,500 to 2,000 men at work, and the work included a point of activity near Empire at that time, but that had stopped when we arrived, and there was only one place where they were doing any work, and it was common talk all over the Isthmus that work was being done, not with the idea that it counted particularly toward the final result of a canal, but that it kept alive the concession which they had received from the Government of Colombia, and if work should absolutely stop their concessions might be forfeitable.

The machinery was scattered everywhere along the line, along the side tracks, in the jungle; trees had grown up amongst the cars. I think there were 3,500 dump cars. I believe there were 60 engines of all kinds, and 6,000 or 7,000 of these little push cars made of metal, and a great many other tools and machines.

It was stated that this whole plant had a book value of \$29,000,000, but I inquired into that somewhat, and I found that it was the French practice that when a machine arrived on the Isthmus from abroad, where it was bought, they always wrote up 30 per cent additional of value over the purchase price as representing its value on the Isthmus as soon as it got there, so that this \$30,000,000, in round numbers, includes an added 30 per cent that was simply a book-account value. I suppose you would find the real cost of that machinery by deducting that 30 per cent from the \$29,000,000.

Senator MORGAN. What condition was the railroad track in?

General DAVIS. Very good; very good, indeed.

Senator MORGAN. How about the wharves?

General DAVIS. The wharves were in a very satisfactory condition; they were adequate for the limited business they were doing. They were entirely inadequate for the enlarged business that was to come. The La Boca wharf built by the French company was a metal affair on concrete foundations, and very well built, but a very inadequately designed structure. It was very long and very narrow, and it did not have space in which to work cargo economically; but it cost \$2,000,000 to the Panama Railroad Company; that is what they paid for it.

Senator MORGAN. That wharf extended perpendicularly to the coast out into the bay?

General DAVIS. It extended parallel to the axis of the canal, 200 feet away from the center axis of the canal.

Senator MORGAN. Did it reach out into the sea?

General DAVIS. No; not into the sea. There were mud flats all around it at low water, except on the side of the canal, which had been excavated. There was room enough for three of the San Francisco ships to lie there, the ordinary type of vessel running between Panama and San Francisco; three of them could tie up there at the same time.

Senator MORGAN. The channel, then, was dredged out?

General DAVIS. Certainly, they came up to this wharf, and do now, and have for the last three or four years.

Senator MORGAN. That channel is really a part of the canal?

General DAVIS. A part of the canal; yes, sir, certainly.

Senator DRYDEN. Is that the only wharf at Panama?

General DAVIS. The only one used. The old Panama wharf over on the other side of the city, where all the business of the transit was done until four years ago, lies to the east of the city. This wharf I speak of lies to the west of the city. This map will show you the situation. Here is Panama Harbor, so called, and that is the old Panama wharf, and the Panama Railroad comes down here [indicating on map]. The La Boca wharf is served by this branch [indicating on map], and that is what I insisted on taking into the Zone, and not leaving in the city of Panama.

Senator MORGAN. That La Boca wharf is in the Zone?

General DAVIS. Certainly, it is now; but if it had not been put there—well, if the earlier negotiations had not resulted as they did, I doubt very much if you would not have had a good deal of difficulty to-day in securing an agreement like that.

Senator DRYDEN. Who claimed the wharf, the city of Panama?

General DAVIS. Not the ownership, but the jurisdiction. The ownership was in the United States; nobody questions the ownership; the ownership was in the Panama Railroad, and the United States owned the stock.

I would say in regard to this zone of delimitation, that when Secretary Taft made his *modus vivendi* with the Government of Panama, in January, I think it was, 1905, one of the clauses of that agreement specified certain acts to be done by officers of the United States in pursuance of his orders that should not be done unless the Government of Panama ratified—that is, the representative of the Government of Panama ratified—and confirmed the provisional delimitation agreement that General Davis had entered into with the Government of Panama the year previous, and that the line of delimitation between the territory of the Zone and the territory of the Republic of Panama should be a line extending from Point Mala, on the shore of the Bay, over to the islands named Las Tres Hermanos, out to the 3-mile limit in the harbor, and that all water lying to the west of that line should be in the Zone, and all lying to the east of that line should pertain to the harbor of the city of Panama; and that requirement of Secretary Taft's order has been observed by the authorities of the Republic of Panama.

But that delimitation agreement has not, however, yet been made the subject of consideration by the National Assembly of Panama, so that it would be possible as a diplomatic act for the Republic of Panama to disown the agreement which the governor of the Zone

entered into with the Secretary of State in 1904. It would be a very unfortunate event if such a thing as that were to occur, I think, and I know of no intention to do it. I know of no purpose to endeavor to upset it; I have never heard of any.

Senator MORGAN. While this work was going on at the notch of Culebra, what was becoming of the prism of the canal that had before that time been dug out by the French, both on the Panama side and the other side—was it filling up?

General DAVIS. Oh, no; it was there as before. The part of the canal that had been dredged out toward Colon had filled up in a few places, had silted up at a few places. One place was at the mouth of the Mindi, where the silt coming in from the Mindi itself has blocked the canal prism, but generally you could go along in a boat where it had been dredged.

Senator MORGAN. Dredged down originally how deep?

General DAVIS. About 20 feet or 22 feet, I think. I sounded it myself in one or two places; I remember I found 20 feet in one place.

Senator MORGAN. It has been several years since the French made any attempt to keep that channel open.

General DAVIS. They never did a stroke of work on that channel after the work stopped in 1889.

Senator MORGAN. I refer to the dredged channel; they never touched that after that?

General DAVIS. No, sir; not on either side in the marine sections.

Senator MORGAN. Was the dredging out toward La Boca all filled up?

General DAVIS. Oh, no; it is there yet. You can sail up the old excavated channel in the mangrove swamps there in the Rio Grande lowlands in a small boat quite a distance. I have been up as far as Miraflores, not all the way in the excavated channel, but a part of the way in the old channel of the river.

Senator MORGAN. That has filled up considerably since it was first dredged?

General DAVIS. Somewhat, but not very considerably; I think not.

Senator MORGAN. What flow of water filled it up?

General DAVIS. Silt that would be brought in by the tide and silt that would come down from the headwaters of the Rio Grande and its tributaries; that would be the material that would choke it up.

Senator MORGAN. So silt did come in with the tide?

General DAVIS. Mostly with the tide, I think. I think most of that trouble on that side was on account of the littoral drift. I do not think that the silt from the highlands has much influence in blocking up the lower Rio Grande.

Senator MORGAN. When the tide comes out to its lowest stage there is quite an area of country left there?

General DAVIS. Yes; left exposed.

Senator MORGAN. And then when the tide comes in——

General DAVIS. It covers it again.

Senator MORGAN. And washes it up against the coast?

General DAVIS. Just simply the water lies over it, floods back over it, just as it does on the tidal marshes in Georgia and South Carolina, the same way; the tide floods over it and then recedes twice a day; it comes and goes. Of course it is salt water, so there is no grass growing in it; but these mangrove bushes are growing there. They are

what we call mangrove in the United States; they call it mangla down there.

Senator MORGAN. When you took command of the Zone you found 600 or 700 negroes there that had been formerly working under the French, did you not?

General DAVIS. Yes.

Senator MORGAN. And Major Black was in charge of them?

General DAVIS. Yes; Major Black had charge of the work.

Senator MORGAN. You continued those men at the work?

General DAVIS. I continued them straight on, and when Mr. Wallace came in July he continued them and added more to the force.

Senator MORGAN. Did he add considerably to the force?

General DAVIS. Very much; very much. I think he worked up the force from 700 to 7,000 or 8,000. I do not mean to say at Culebra, no; he enlarged that force from 700 to I think 1,500 or 1,800—

Senator MORGAN. The whole force that he brought in—

General DAVIS. The whole force that Mr. Wallace had there at the time I left—I don't know of course what it was after that—was about 9,000, I think. That included sanitary and canal and everything else.

Senator HOPKINS. Right there I would like to ask a question, if you will permit me. In your judgment, was all that work well directed?

General DAVIS. Well, the sanitary work was absolutely indispensable, and there wasn't enough done, either. If there was any error made during that period it was in not spending more effort on the sanitary work. The work that was done in repairing houses and in constructing houses, in making sidings, and arranging for future work was all very valuable and of the most useful character.

Senator HOPKINS. Then you do not think that there was any squandering of money there?

General DAVIS. I don't think there was a dollar squandered; no. The work Mr. Wallace did at Culebra, I think, was work of the utmost value, because it revealed to him and to others, in their judgment, certain ideas as to what economies were possible; it was valuable to the critics of Mr. Wallace in showing where Mr. Wallace was mistaken. So it was valuable either way you put it. He alleged certain things respecting economy in which others did not agree with him, but the very fact that he had done this work at certain prices was an addition to knowledge which was valuable. I think there was no money wasted.

Senator MORGAN. How long was it after you were on the Isthmus as governor that this acquisition of labor began?

General DAVIS. It began almost immediately, very soon after—it began even with our going there, because all the West India world knew what had happened at Panama, and they had been waiting for the happening for years and years. There had been a former period of luxury and wealth "time of the empire," as they called it, when money flowed like water, and they wanted to see it again, and they had been waiting for it from 1899 way down to 1904, and then they heard the United States had taken hold and then the tide began to set toward Panama again.

Senator MORGAN. And the conditions in Panama were not requisite to their comfort or their entertainment or their health?

General DAVIS. Oh, no; there was not adequate accommodations for a very large influx, and it bothered us at times to take care of the men that we brought down there ourselves. It troubled us at sometimes

to take care of them in a proper way—that is, so you could offer a man a house that was fit to live in. It was a very perplexing question to do that sometimes, but generally we made out to do it.

Senator MORGAN. The question of supplies was a difficult one, also?

General DAVIS. Yes, sir; the question of supplies was difficult. We could purchase on the Isthmus whatever was available there and whatever we required, whatever was indispensable, if it was procurable there, we bought it. We bought many articles that were required by the sanitary department, and we purchased some things that were needed by the construction department. We bought quite a quantity of lumber that was brought down there by merchants on speculation, loaded at Gulf ports. We bought several small cargoes of lumber to use in constructing houses, lumber which had been sent there not for Government use at all, but had been sent there to be used in constructing private buildings, but as the lumber was for sale we purchased it. We purchased some little cement, some bricks, some lime, some hardware, some drugs, and various things of that kind. Other things that were not obtainable on the Isthmus we made requisition and sent for to the Commission in Washington.

Senator MORGAN. You had a large, rapidly increasing influx of people there that you were compelled to organize and provide for with shelter and food?

General DAVIS. Yes, sir.

Senator MORGAN. And to arrange them in such gangs as that you could use them for the purposes of preparation.

General DAVIS. Yes, sir.

Senator MORGAN. When you got there, and for quite a long time or a considerable time, I suppose, after you got there, the work on the digging of the canal was not in a state of preparation to be advanced successfully or economically?

General DAVIS. No; it was not, for we did not have the proper appliances for rapidly pushing the work. Our tools and apparatus were antiquated.

Senator MORGAN. You did all that could be done with the forces you had and with the machinery you were supplied with?

General DAVIS. Yes.

Senator DRYDEN. Did these laborers who came in to the Isthmus come voluntarily?

General DAVIS. Yes, sir; of their own accord.

Senator DRYDEN. They were not brought there at the expense of the Government?

General DAVIS. Some of them have been brought there at the expense of the Government since; yes.

Senator DRYDEN. Not the earlier ones?

General DAVIS. No; we didn't establish any agencies for the hiring of labor in the West India Islands until several months after we arrived there.

Senator MORGAN. It appears to be difficult to get labor to go there now. Do you know the reason for the difficulty?

General DAVIS. You mean mechanical labor?

Senator MORGAN. I mean labor of the kind that is used there in digging the canal.

General DAVIS. I think not, sir; I think there is an abundance there, I think it is flocking there; it is coming from Martinique and

Jamaica; they are flocking in there all the time, and I think there is a surplus there now.

Senator DRYDEN. They do not want to work more than three or four days in the week?

General DAVIS. They will only work when they are hungry. If they have money enough to feed themselves they will remain idle until the money is gone and then they will turn to work again. There is not such a thing in that country as laying up anything; they have no idea of anything like a savings bank.

Senator MORGAN. Taking the general condition of the country between the Bay of Limon and the Bay of Panama, state whether or not it had grown up with this rapid tropical growth, and whether the buildings and the roads, or whatever they had there, were in a forlorn sort of a condition.

General DAVIS. Yes; the place was grown up very largely to a jungle. When I say a jungle I mean low bushes, 2 or 3 or 4 or 5 feet, running up to 10 or 12 to 25 feet high. Senator Kittredge and Senator Millard have seen the character of the vegetation. Vines and creeping plants, tangling around and about and in and on everything, conceal and cover up the surface of the earth very quickly. Almost all the trees and some larger shrubs are covered with creeping plants—not insects, but plants—climbing plants, twining around and winding about, shrouds of vegetation, hanging down from growing trees that have not anything to do with the tree except as a parasite. That is the character of all tropical vegetation, the same as in other tropical countries I have been in.

Senator MORGAN. You had to clear that out before you could get a foothold?

General DAVIS. Yes; but the Panama Railroad was open all the way, and there were villages all along, and from each village it was easy to get here and there and on and about. There were bridle paths and trails from village to village, more or less; not roads, but paths sufficing for the uses of the natives; not very luxurious. They were not automobile roads.

The CHAIRMAN. Those bridle paths you speak of were along the right of way of the Panama Railroad.

General DAVIS. Yes. From Empire there was quite a lot of travel directly to the west, away from the railroad, over to a town called Cocoli, which is in the Republic back from the railroad.

Senator MORGAN. Were the men under your appointment and control there, as a rule, industrious and dutiful?

General DAVIS. Well, industry in the true sense—that is, I mean thrift in the true sense—does not exist on the Isthmus. There is nothing that I have seen that answers that description.

Senator MORGAN. You mean among the laboring classes?

General DAVIS. Yes; what we call thrift. There are four or five or six hundred Chinamen on the Isthmus, and they are thrifty, they save every cent they make, they never spend a penny that they can avoid, and it all goes back to China in the end.

Senator MORGAN. Do they live in the Zone?

General DAVIS. Some of them do. The Chinamen are the only gardeners that we have, they make all the gardens we have, and that is the only chance we have to get any fresh vegetables. The natives do not grow anything.

Senator MORGAN. What is the nature of the hygienic work that has been done there?

General DAVIS. Cleaning jungle, making ditches, miles and miles and hundreds of miles of shallow ditches, so as to drain pools and stagnant places; cutting away the vegetation so as to exclude the insects which, according to modern sanitary science, are the cause of a good many of our tropical diseases.

Senator MORGAN. Your task was a very heavy one?

General DAVIS. Well, it was a large one, and no man can work more than a certain number of hours a day, so that he found enough to do during his day and then he was ready to rest and sleep.

Senator MORGAN. Did you find any material on the Isthmus when you took charge there of proper character to repair the houses that were rotted down?

General DAVIS. No.

Senator MORGAN. You had to import it?

General DAVIS. All lumber has to come from outside. There is no lumber produced on the Isthmus available for temporary houses. There is a little mahogany shipped out of the remote points on the Isthmus, but that is far too valuable a wood to use in the structure of houses.

Senator MORGAN. The process of getting lumber there to make repairs must have been a slow one?

General DAVIS. Pretty slow. We had to send it from the United States, from Gulf ports, and from the Puget Sound country.

Senator MORGAN. It took you quite a while, I suppose, to assemble enough material there to make much of an impression upon those houses?

General DAVIS. Yes; quite a while.

Senator MORGAN. And in addition to repairing houses I understand you burned up a good deal—

General DAVIS. We burned up the refuse that came out of the houses that were partly in ruins; we burned up some refuse.

Senator MORGAN. You burned up some houses?

General DAVIS. I did not. Maybe that has been done since; I don't know about that.

Senator MORGAN. In making all this preparation, this cleaning up, you had to take things from the stump, as we say?

General DAVIS. Yes.

Senator MORGAN. There was nothing provided?

General DAVIS. No.

Senator MORGAN. The French left nothing there that was of any material value?

General DAVIS. They left a good deal of hardware; they left a good many kinds of ironmongery—I mean in stock, bar iron, bar steel, copper, pig lead, Babbitt metal, spelter, zinc, galvanized iron, many kinds of tools, hydraulic lifting devices, steam engines, small donkey engines, pumps—and a great deal of that material came over to us and saved us quite a good deal in the way of preparation when we had that to fall back on.

Senator MORGAN. Have you instituted machine shops there?

General DAVIS. Yes; we took those French shops. There were in all five French shops on the Isthmus. We put every one of them into use. We overhauled the machines; we repaired some, disused others,

enlarged several. There were two brass foundries, two cupolas for making small castings; there were planers and drill presses and lathes and milling machines, and all those usual machines that you find in machine shops. They were there ready to put on a belt and start them right off, some of them, and some others had to be overhauled and leveled and lined up.

Senator MORGAN. You got your fuel there—coal, I suppose—from the Panama Railroad?

General DAVIS. We got it from the Panama Railroad. They were importing all the time, and we got ours from them.

Senator MORGAN. And you made your purchases from the Panama Railroad of fuel?

General DAVIS. Yes; they sold it to us.

Senator MORGAN. And they furnished you chiefly, if not entirely, the transportation with which you had to provide yourselves for all these necessities?

General DAVIS. They furnished and have since furnished all the through transportation over the Panama Railroad, but the transportation for hauling earth out of these working places has never been done by the Panama Railroad. Recently it has been necessary to use the tracks of the Panama Railroad to some extent. That is done under the general trackage arrangement; but the dump trains, the trains hauling earth and rock, are trains made up exclusively of rolling stock that has no connection with the Panama Railroad, and that operates on tracks that are not in any way under the control of the Panama Railroad Company.

Senator MORGAN. During all the time of your administration there I suppose, from evidence that has been presented here, the Panama Railroad was considered as a separate and independent corporation?

General DAVIS. Yes, sir.

Senator MORGAN. You had to make deals with them, traffic deals and everything of the sort?

General DAVIS. Yes, sir.

Senator MORGAN. And these tracks upon which you haul earth out of the diggings were made by the Isthmian Canal Company?

General DAVIS. By the Commission.

Senator MORGAN. And you made your arrangements for mileage, I suppose?

General DAVIS. Yes, sir.

Senator MORGAN. Upon the Panama Railroad?

General DAVIS. Yes, sir; most of that work was handled, I think, by the chief engineer and his chief of department of material and supplies; I think he was the one that handled the negotiation. I had no personal dealings with respect to those negotiations with the railroad, but it was managed by men by whom its performance was appropriate.

Senator MORGAN. The meetings of the board of directors of the Panama Railroad Company were all held in New York, were they not?

General DAVIS. I think all of them. I think they always have been. Although I am not exactly sure about that, that is my understanding. I tried to induce the Commission to have some meetings of the board of directors of the Panama Railroad Company on the Isthmus, but my colleagues did not agree with me about it.

Senator MORGAN. Taking everything together, I suppose the Panama Railroad was about the most important active factor in the doing of the work of the canal, or the most indispensable?

General DAVIS. Oh, yes, quite so; it is indispensable to carrying on the canal work.

Senator MORGAN. So that the control of that railroad company had a very important influence on the work?

General DAVIS. It is bound to have, and always will have while the work lasts.

Senator MORGAN. While you were there was there any jam——

General DAVIS. Congestion of freight?

Senator MORGAN. Congestion of freight, yes.

General DAVIS. Nothing very serious during my time, but just after I left, just about the time I was leaving, and just after I left, there was a very large accumulation of tools and machinery and lumber sent down from the United States to the Isthmus for canal purposes, and the wharf accommodations had not yet been enlarged, so that it could be conveniently handled, and just during the latter part of my stay there this freight congestion began.

The Panama Railroad Company didn't have adequate rolling stock to handle the freight, to handle this very largely increased quantity of freight, they did not have wharf room to take this rolling stock, their engines were not of sufficient power to handle the heavy trains, their sidings were not long enough so that they could shunt as many cars as might be necessary, the terminal facilities were not adequate for this very large increase of the arrival of commodities, and this congestion had begun when I left there.

Senator MORGAN. Was that congestion due in any part, and if so to what probable extent, to any increase of the commerce across the Isthmus?

General DAVIS. I do not think that very much of it related to increased commerce across the Isthmus, but the congestion was brought about by the fact that the Government was becoming a very large customer of the Panama Railroad, and its facilities were not sufficient——

Senator MORGAN. Brought about by the demand of the Government for material——

General DAVIS. Yes; I think that even during my time it had happened that a train of cars would be loaded up and goods consigned to some point at which there were not facilities to receive them, and that that train of cars would stay three weeks loaded on the tracks before it was finally unloaded. I have been told this by persons connected with the train service, the difficulty being to find a place to store the stuff when it should be unloaded, or let it be thrown out into the open air, so that the most valuable agency for moving this freight was simply used as a storehouse—these box cars. Of course that did not work advantageously, but that was very soon cured.

Mr. Shonts got experienced railroad men and put them in charge of the train service, transportation men, who were thoroughly up in all those matters, and while the congestion has continued off and on since, from various causes, as I read in the newspapers, yet I think that the steps taken to relieve the congestion are the best that could be taken. So far as I know, they are. I understand that the coffee crop this year is a very large one, and that it is even now considerable trouble to transfer that coffee as rapidly as it arrives on the Pacific side. Most of

it is going to Hamburg and Havre or London. It goes out by those foreign steamers.

Senator HOPKINS. From what countries?

General DAVIS. Guatemala, Salvador, and Costa Rica.

Senator MORGAN. I suppose the chief of the sanitary corps is Doctor Gorgas?

General DAVIS. Yes; an excellent man.

Senator MORGAN. His undertaking was a very heavy one?

General DAVIS. Yes.

Senator MORGAN. To get hospitals there, and so on?

General DAVIS. Yes; it was.

Senator MORGAN. Was disease prevalent when you were there?

General DAVIS. Not especially so when we arrived there. I believe we found out afterwards that there was one case of yellow fever when we arrived; but we did not find it out until several months afterwards. I think the first case of yellow fever occurred early in July.

Senator MORGAN. I understand yellow fever is not the greatest enemy there.

General DAVIS. No; malaria is the troublesome disease, and tuberculosis kills more people than any other disease.

Senator MORGAN. I suppose from exposure to the weather?

General DAVIS. Yes; and inadequate nutrition and a bad scale of living. Tuberculosis does more harm in the Tropics than any other disease, according to my observation.

Senator MORGAN. And next to that comes malaria?

General DAVIS. Next to that comes malaria. In the Philippines they have dysentery, but in Panama there is no dysentery at all, strange as it may seem.

Senator MORGAN. None at all; no dysentery?

General DAVIS. Hardly any dysentery on the Isthmus, while in the Philippines it is very prevalent. It causes a great deal of invaliding home of our soldiers.

Senator MORGAN. And no yellow fever in the Philippines?

General DAVIS. None at all; never a case.

Senator MORGAN. And none in Hawaii?

General DAVIS. No.

Senator MORGAN. And none in Nicaragua?

General DAVIS. None in Nicaragua. I think they have had plenty of yellow fever at Greytown in times past, in former years.

Senator MORGAN. We have had testimony here that there were no cases at Greytown except those imported there for sanitation.

General DAVIS. There is more or less yellow fever up and down the Central American coast. I don't think any certain place on that coast can be counted on as entirely free from yellow fever, provided non-immune people are there. The natives are generally immune; but if there are a lot of nonimmunes there you may be sure that you will find yellow fever if it is in the country.

Senator ANKENY. Is it true, General, that you have double tracked that road?

General DAVIS. I have heard by reading what others have said that it has been double tracked through about two-thirds of its length, and I think that is about all they intend to double track at present. I only know that by reading, however. When I left there in May, 1905, they were then double tracking the road—had begun the work.

When I was there in September last year they had double tracked considerable stretches of it, but I am told now that double tracking has gone on until they have got about one-half, quite one-half, of it double tracked.

Senator MORGAN. General, during the time you were governor of the Isthmus and one of the Commissioners, which was about a year, was it—

General DAVIS. About a year, yes.

Senator MORGAN. What part of your time were you absent from the Isthmus?

General DAVIS. I was in the United States two weeks in August, 1904.

Senator MORGAN. That was on account of family bereavement?

General DAVIS. It was on account of such an occurrence as you say.

Senator MORGAN. You remained on the Isthmus at work during all the balance of the time?

General DAVIS. Yes, sir.

Senator MORGAN. Were the Commissioners there with you?

General DAVIS. They were there, five members of the Commission; five of my colleagues were there from the 30th of July, 1904, until the 6th of September of the same year.

Senator MORGAN. They were there continuously?

General DAVIS. Yes, sir; and two other members of the Commission came down again in February—members of what we called the engineering committee of the old Isthmian Canal Commission. I refer to Messrs. Burr and Parsons. They remained on the Isthmus, as near as I can now recollect, about two weeks. Mr. Hecker went down one week later than I did. He was a member of the Commission. He remained with me there until the Commission arrived, and then he returned to the United States with it, and shortly afterwards sent in his resignation.

Senator MORGAN. The minutes of this Commission, as recorded here and reported to the President and by him to Congress, show a large number of meetings. Do you recollect the number?

General DAVIS. I have an impression that it is eighty-five, but I can not say exactly. You can see in a moment by looking.

Senator MORGAN. Yes; I can get the number. They appear to have been on nearly consecutive days.

General DAVIS. Almost; sometimes day after day, right along.

Senator MORGAN. While the Commissioners were there, I take it from the character of their proceedings and work, they were very continuously employed.

General DAVIS. I think so. They were industrious. So far as I know, when they were on the Isthmus, they met every day, and on one or two occasions they met at night in my quarters.

Senator MORGAN. And you had to consult about the development of a new situation there in every respect?

General DAVIS. In every respect; yes, sir.

Senator MORGAN. Physically and in a governmental sense?

General DAVIS. Yes.

Senator MORGAN. And for the preservation of the health?

General DAVIS. Yes.

Senator MORGAN. And for your connection with outside communication for getting materials, etc.?

General DAVIS. Exactly.

Senator MORGAN. Acquiring labor, and all that?

General DAVIS. Yes, sir.

Senator MORGAN. That was a task that occupied the Commissioners individually and collectively, you may say, continually?

General DAVIS. Oh, yes; I think they were very industriously employed in all those matters. I judged so from reading their minutes, and I know what occurred when I had the good fortune to be present.

Senator MORGAN. Was there, within your knowledge, any delinquency on the part of any Commissioner during that period of time?

General DAVIS. I do not think so.

Senator MORGAN. In the performance of his duties?

General DAVIS. I do not think so, sir; but it is the superior officer who ought to judge of those things.

Senator MORGAN. He has a right to judge, but he ought to judge justly.

General DAVIS. I thought they were industrious and attentive to their duties. I felt so.

Senator MORGAN. Can you account for this statement in an order of the President, addressed to the Secretary of War, dated "White House, Washington, D. C., April 1, 1905:"

"The practical result of the operations of the Isthmian Canal Commission appointed and acting under previous Executive orders has not been satisfactory and requires a change in the personnel of the Commission and in the instructions for its guidance."

Are you aware of any fact which required a change in the personnel of the Commission?

Senator HOPKINS. One moment, Senator. That question, it seems to me, ought not to be asked of this man. He has admitted that the committee were up here while he was down there. What led the President to indite that letter may have been things that occurred up here, a thousand or 2,000 miles away from this man.

Senator MORGAN. He has stated that the Commission were there about eighty days in session.

Senator HOPKINS. That is only a small part of the period that he was a member of the Commission, and it seems to me that that question does an injustice to the General.

General DAVIS. I could not answer that question without commenting upon the action of the President of the United States, and I should think that I ought not to do that.

Senator HOPKINS. Yes; and you have not sufficient information.

General DAVIS. I have not information, either.

Senator MORGAN. Did you, while you were there, discover any delinquency or any want of attention to duty on the part of any of your colleagues?

General DAVIS. No delinquency; no, sir. I urged my colleagues to appoint an executive committee to share this responsibility on the Isthmus. I urged them in an official way; I offered a resolution at a meeting of the Commission for the appointment of an executive committee of three members who should permanently stay on the Isthmus and be associated with me in the administration of the duties which were devolved there. I do not mean that they should be associated with me in the duty as chief executive, but as a working body of the Commission, an executive committee.

My colleagues did not agree with me on that proposition. I think that was a mistake. I do not call that a delinquency; it was simply a difference of opinion. I think it would have been better if they had sent an executive committee there of their own number with power to act. But it is only an opinion, and their opinion is as good as mine. They did not agree with me. The records of the minutes will show the resolution which I offered. It is all printed.

Senator MORGAN. Do you know of any fact that shows or tends to show that any retardation of the work took place in the Isthmus in consequence of the want of industry or the want of capacity or the want of fidelity on the part of any of the Commissioners?

Senator HOPKINS. I submit, Mr. Chairman, that that is a question that ought not to be propounded to this witness. It involves practically the same objection that I urged to the previous question. The President's letter stands for what it is worth. This witness of course was not in a position to see and judge of all the things that came to the attention of the President, and he ought not to be required to put up his judgment against the President's on a matter like that, where his observation is limited, and his information is limited.

Senator MORGAN. I did not ask him for his judgment about anything at all. I asked him for the fact as to whether he saw any inefficiency or neglect of business on the part of any Commissioner while he was there.

Senator HOPKINS. But he does not know the fact.

(By direction of the committee the stenographer read aloud the pending question.)

Senator HOPKINS. You see, he has stated that for a year he was away from the Commission.

The CHAIRMAN. It seems to me it is hardly a proper question, Senator, for this witness to answer. The Commission was here at the time.

Senator MORGAN. I do not ask General Davis this question with a view of his vindicating himself, because the record vindicates him in every possible particular. I ask it with a view of the vindication of his colleagues. I would not ask him the question if it related to his own personal opinion of what his own conduct had been.

The CHAIRMAN. I do not see any reason why the witness should answer that question.

Senator MORGAN. Some of these gentlemen are before us for confirmation, and I will give the committee to understand that I want to know how they have been behaving themselves.

The CHAIRMAN. The General has signified that they behaved themselves all right.

Senator MORGAN. But the Senator does not want his answer to go down.

Senator HOPKINS. I do not want it to go down because I think it would be an injustice to General Davis, and also because it is a question that, from the standpoint of the President, ought not to be gone into with the lack of information which the witness has stated that he has, and he ought not to be put in a position either to confirm or to antagonize his superior officer on a proposition like that.

Senator MORGAN. If General Davis had said that he did not feel that he ought to make an answer to such a question as that I would

have waived it. He answered the question that he had not seen any delinquency or anything of the kind, vindicating his colleagues in a way that I am very much pleased with.

General DAVIS. I am willing to make one statement in connection with that letter which may have some bearing upon it.

The CHAIRMAN. Proceed, General.

General DAVIS. I think that my opinion would not be conclusive on the subject at all. The superior, the President of the United States, is surely to decide for himself as to the suitability of his agents for doing his work. He has expressed himself on this subject; and I am perfectly willing to concede that the President must have exactly that power that he has expressed in the few lines that Senator Morgan has read. He could not be the Chief Magistrate of this nation without the right to exercise that power.

Senator MORGAN. I do not object to his exercise of such power as that; but as a Senator, acting upon the confirmation of the same men that he had in office at the time, and some of whom he turned out, I have a right to know.

Senator HOPKINS. I think, in addition to the other propositions, that it is unfair to put General Davis in an attitude where he might or might not antagonize the position of the President.

Senator KITTREDGE. I do not think this question is in line with the question to which you objected just prior to this.

Senator DRYDEN. I think, Mr. Chairman, that the committee should remember that General Davis occupies a different position from many of the other witnesses that have appeared before us. He is an officer of the Army; and anything which requires of him a statement which either directly or indirectly reflects upon his superior officer, namely, the President of the United States, I think should be excluded.

Senator KITTREDGE. I do not understand that this question amounts to that.

Senator HOPKINS. The question was seeking to antagonize him in his statement with that of the President. That was the apparent object of the question. I do not know whether the questioner intended that or not, but that was the effect of the question.

(By direction of the committee the stenographer again read aloud the pending question as follows:)

Do you know of any fact that shows or tends to show that any retardation of the work took place in the Isthmus in consequence of the want of industry or the want of capacity or the want of fidelity on the part of any of the Commissioners?

Senator KITTREDGE. That is quite a different question from the one asked just prior to that.

Senator HOPKINS. I do not think it is. It would be highly improper for this witness to answer it.

Senator KITTREDGE. If General Davis has any objection to answering that question, I would be willing to vote to excuse him.

The CHAIRMAN. I think it should be left to the witness.

Senator KITTREDGE. Otherwise not.

Senator HOPKINS. I do not think so, Mr. Chairman. I think that is a matter that is part of our province.

Senator TALIAFERRO. That question could have been asked with absolute propriety if the President had never written a line on the subject. The question is whether this witness, as a member of the

Commission and as governor of the Zone there, and as this Government's agent, practically, on the Isthmus, knew of anything connected with the conduct of these other agents of the Government that had in any way put back that work on the Isthmus. That is the question.

Senator HOPKINS. That would be all right enough if the President had never expressed himself on the subject. Then this witness, in whatever answer he might make, would not be putting himself in antagonism with his superior officer or taking any position whatever with reference to him. But inasmuch as the President has written what has been read by Senator Morgan, it does become a pertinent question as to whether this witness should be put in an attitude of contradicting or criticizing his superior officer. Then, in addition to that, Mr. Chairman, he has already shown that these men were here in Washington and that he was there on the Zone, so he has not the information which would enable him to answer the question.

Senator MORGAN. The President states this, if the chairman will allow me:

"The practical result of the operations of the Isthmian Canal Commission appointed and acting under previous Executive orders has not been satisfactory, and requires a change in the personnel of the Commission and in the instructions for its guidance"—the practical results of the work done on the canal and elsewhere in the performance of their duties.

Senator HOPKINS. I disagree with the Senator.

Senator MORGAN. We have examined the whole of that work there, both there and here, freely and with perfect right on our part, at least—for I do not think I have any superior officer when I am required by the Senate to ask a question that I think is proper for its information; and I predicate my question upon what the President asserts is the practical result of the operations. We have that. Now I want to know of the witness whether he is aware or has any reason to suspect that the practical results of the operations there of which the President complains have been the fault, within his knowledge, of any member of the Commission. I want to show that the fault is in the situation.

Senator HOPKINS. Now, Mr. Chairman, you can see that that question of itself does not elucidate any proposition that this committee is called upon to pass upon or to recommend to the Senate—not at all. It is simply an effort upon the part of the questioner to antagonize this witness with his superior officer; and it is asking him a question, as I have before said, that covers a subject that he does not know any more about than a schoolboy, because he was down there discharging his duties efficiently while these men were up here. He is not supposed to know, and does not know, what information the President had that caused him to write that letter.

Senator KITTREDGE. The question simply calls for his own knowledge. If he has not any, he can say so.

Senator HOPKINS. I think the chairman had better rule on the question.

Senator TALIAFERRO. I do not agree with you, Senator, that there is any purpose on the part of Senator Morgan to bring this witness in antagonism with or in criticism of the President. If I thought so I would not favor the answers being given. But you assume to take care of a witness here who has shown that he is abundantly able to

take care of himself; and I take it that General Davis is not going to be drawn into any antagonism of the President by any question that is put to him.

Senator HOPKINS. I think the best way is not to let the question be answered, because it is not pertinent to anything that we are considering here.

The CHAIRMAN. I see no reason why the witness should be called upon to answer this question unless he desires to do so. The chair will excuse him if he desires to be excused.

Senator MORGAN. Oh, if the General should say that he desires to be excused from it, that is another matter.

General DAVIS. It would be the height of impropriety for an officer of the Government holding the relation to the Commander in Chief of the Army and Navy that I necessarily hold to pass any opinion whatever of approval or disapproval on his action. It would be the height of impropriety. I have been forty years and more in the service, and it would be entirely wrong. I do not know what was in the mind of the President when he wrote that paragraph. It is impossible that I should. He had means of knowledge which I did not possess. He could know of events that were unknown to me, and I feel as if it would be quite improper for me to discuss this subject.

The CHAIRMAN. Senator Morgan, will you proceed with other questions?

Senator MORGAN. I want to state one of the grounds upon which I ventured to ask this very tender question. That letter is dated April 1, 1905, at the time of the organization of the new Commission. The President says, in a message to Congress dated January 8, 1906:

"The work on the Isthmus is being admirably done, and great progress has been made, especially during the last nine months. The plant is being made ready and the organization perfected."

I want to show that as much progress had been made during the preceding time as had been during the last nine months, and a great deal more, and I will show it, and have shown it. [Reading:]

"The first work to be done was the work of sanitation, the necessary preliminary to the work of actual construction; and this has been pushed forward with the utmost energy and means. In a short while I shall lay before you the recommendations of the Commission and of the Board of Consulting Engineers as to the proper plan to be adopted for the canal itself, together with my own recommendations thereon. All the work so far has been done not only with the utmost expedition, but in the most careful and thorough manner; and what has been accomplished gives us good reason to believe that the canal will be dug in a shorter time than had been anticipated and at an expenditure within the estimated amount."

I suppose we are at liberty to show that the President was mistaken in that declaration to us. I think we are not debarred, because he says a thing, from inquiring into whether or not the foundations of fact on which he made that expression of opinion are correct.

Then he goes on to say, after speaking of certain accusations and the sources from which they sprung, that they emanate from men who are "desirous of obtaining notoriety by widespread slander. More often they originate with or are given currency by individuals with a personal grievance. * * * Every specific charge relating to jobbery, to immorality, or to inefficiency from whatever source it has come has

been immediately investigated, and in no single instance have the statements of these sensation mongers and the interested complainants behind them proved true. * * * I court the fullest, most exhaustive, and most searching investigation of any act of theirs," which includes their employees down there, "and if any one of them is ever shown to have done wrong his punishment shall be exemplary."

Senator HOPKINS. Senator, there is nothing inconsistent in that statement that he has sent to us and the statement upon which you predicated your question to General Davis. There is no inconsistency on the part of the President there.

Senator MORGAN. The Senator is defending the President against an alleged inconsistency that has not been even hinted.

Senator HOPKINS. I am not defending him at all; but you are reading that as a basis for the justification of your question, and I, without defending the President (because he does not need any defense) am saying that there is no inconsistency between what you are now reading and the statement that you read upon which you predicated your questions.

Senator MORGAN. I am trying in this manner simply to ascertain what has been done, and if there is anything that has been omitted to be done by any person who is in default to ascertain that and point it out; because the President demands the most thorough investigation of every person who has been engaged in that work there, and I supposed that he meant what he said. If anybody here has a right to say that he was not in earnest about it, let him speak up and say so.

I will not press the question upon General Davis, because he has evinced a disposition, which I think is very highly commendable, not to criticise in any possible sense his superior officer in the Army; though I think that around this board we are all civilians.

General Davis, have you ever known any person who was a stockholder in the New Panama Canal Company at any time?

General DAVIS. I have no personal acquaintance with any individual that I know to be a stockholder. I never saw a list of the stockholders of the New Panama Canal Company; I never saw a list of them in my life. I presume I have met people who were stockholders, but I did not know it, and do not know it now.

Senator MORGAN. Did you know it from anything they said to you?

General DAVIS. No; I have no recollection of anything said to me that would indicate that any of the persons I was talking with were stockholders.

Senator TALIAFERRO. Does that apply also, General Davis, to bonds?

General DAVIS. To bondholders of the New Panama Canal Company?

Senator MORGAN. There were not any bonds issued?

General DAVIS. There were not any bonds.

Senator TALIAFERRO. By the New Panama Canal Company?

Senator MORGAN. The Old Panama Canal Company issued bonds?

General DAVIS. No; I do not think—I can not recall now that I ever was acquainted with anybody that I knew to be an investor in the Old or New Panama Canal Company, although I presume that I have met such people without knowing it.

Senator MORGAN. While you were governor you made a report of which I have what I conceive to be an incomplete copy, or, I might

say, a corrected copy—an altered copy. I wish to hand it to you and ask you to look at it and see whether you recognize that document.

General DAVIS. I recognize this paper as a retained copy of a report that I made to the chairman of the Isthmian Canal Commission on, I think, the 1st day of October, 1904. It is in the nature of an annual report of certain transactions that came to my knowledge as governor of the Canal Zone. The original sent forward was an exact copy of so much of this as is in typewriting. There are a few places in which I have made changes in pencil. Those were to note corrections that I would have made in the original if it had remained in my hands so that I could do so.

Senator MORGAN. I find some papers referred to in that document that are not copied. If you will hand it to me a moment, I will call your attention to them. One of them, I remember, is a letter from Mr. De Obaldia.

General DAVIS. Yes, sir; the letter was one from the minister of the Republic of Panama, addressed to the Secretary of State of the United States at Washington, and had for its date probably June, 1904. I am not quite sure about its date now. A copy of it was handed to me by the minister of the United States resident at Panama, Mr. John Barrett; and it was the paper that I used in the preparation of this report. I made frequent citations from it in that document. I have looked over my retained papers, and this is a copy of the original letter.

Senator MORGAN. From Mr. De Obaldia?

General DAVIS. From Mr. De Obaldia to Mr. Hay, which was given to me by Mr. Barrett, and which I think has been printed in the newspapers of the Republic of Panama. I think it has been given to the public. I found it in my file after the secretary of the Isthmian Canal Commission had made an inquiry of me in furtherance of a request made upon him by Senator Morgan as to what document Senator Morgan's request related to; and then I looked up what I had in the way of further information. I find this paper among them. It is a letter dated "Legation of Panama, Washington, August 11, 1904," and is addressed to the Secretary of State of the United States. As I said before, I think it was printed in the newspapers of the Republic of Panama. Whether it has been given to the public here by our Government or not I do not know. It is a document that came into my possession in the way I state.

Senator MORGAN. I will ask you, General Davis, whether the reports that you have made to that Commission have all been published in full, or whether they have been published in part and suppressed in part?

General DAVIS. The annual report as governor of the Zone which I made, I think, on the 1st of October—I think it has a concurrent date with the document you have before you—was forwarded in manuscript to the Commission; and a part of it was extracted and sent to me in manuscript form, with the statement that this part was what the Commission proposed to print of the report that I had written. As they had segregated the document and left out about half of it, I felt that they were not treating me fairly in the matter, and called the attention of the Secretary of War to the mutilation, as I called it, of that report. He himself directed that a large part of the remainder should be published, which has been published since, and is marked "Supplementary Report of General Davis."

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Senator HOPKINS. But certain parts of it have not been published?

General DAVIS. A few pages only have not been—a few pages.

Senator MORGAN. So that your report as you made it has not been fully published, although it professed to have been fully published?

General DAVIS. This report that I made has been printed in full, except about two pages—two foolscap pages of no especial importance. But it contained an appendix made up of a large number of documents—that map, that map, and this map [indicating maps in committee room], and a copy of the provisional agreement for the delimitation of the Canal Zone, which I have here, and a good many other documents, thirty or forty, as an appendix, so that the original might be explained. None of those appendices have been printed.

The CHAIRMAN. Senator Morgan, it will take you some little time, I suppose, to finish. Would you be willing to take an adjournment now until, say, 2 o'clock on Monday, or did you wish to proceed with this examination now? It is 5 o'clock, and I think perhaps we had better take an adjournment.

Senator MORGAN. I do not know about 2 o'clock on Monday.

The CHAIRMAN. I did not know how long you would be.

Senator MORGAN. To-morrow is a day that the committee ought to be at work, I think, as there is no session of the Senate.

The CHAIRMAN. If it is agreeable to the committee to meet to-morrow afternoon, it will be entirely agreeable to the chairman. I have a matter in the morning that will prevent my being here, but I can be here at any time after 12 o'clock to-morrow.

General DAVIS. There is just one thing that I happen to think of now that I would like to say in this connection. I spoke to Mr. Taft about coming before the committee, as I was told that I was to come in respect to these matters of Zone government, and the Secretary said at once: "By all means explain to the committee everything about this matter of Zone administration, for I want them to know everything that you know about it—this handling of these questions in the Zone; all of these matters of discussion that occurred. Explain everything to them fully if they wish you to."

Then I also have here a document which I feel confident will be interesting to you. It has not been published, so far as I know, in America, although it was printed in Panama. That is the identical agreement that I entered into with the Government of Panama for delimitation of the Canal Zone—the identical document which has not been printed at all in the United States.

Senator MORGAN. That is a very important paper and ought to go into these records, because we do not know what the delimitation of the Canal Zone around the cities of Colon and Panama is except by reference to that document.

General DAVIS. That is a copy of the paper that I found among my retained records. It is an exact copy of the original.

The CHAIRMAN. Is there any objection on the part of any member of the committee to handing it to the stenographer?

(There was no objection.)

Senator MORGAN. That is not a part of this other report at all? They have put it in as an appendix to the report, or an exhibit?

General DAVIS. It is an exhibit, and I think it will be quite useful to you gentlemen here, for it relates to a very important matter.

Senator MORGAN. I want it by all means, because that is the only evidence we have as to what the agreement is.

The CHAIRMAN. It will go into the record unless some member of the committee objects.

General DAVIS. And the Secretary's agreement with the Government of Panama ratifying it, you know, and requiring from the Government of Panama an indorsement of it.

(The paper above referred to, which, by direction of the committee, was printed as a part of the record, is as follows:)

ISTHMIAN CANAL ZONE, EXECUTIVE OFFICE,

Culebra, June 21. 1904.

SIR: I have the honor to inclose herewith copy of the agreement relating to the delimitation of the Canal Zone recently entered into by myself as governor of the Zone with the secretary of state and the attorney-general of Panama as representing that Republic; also copy of each of three maps illustrating the boundaries of which a verbal description is contained in the agreement.

Very cloudy weather has made it impossible for us to print satisfactorily from the tracings, and I regret that the maps are in the condition they are, but later on better copies will be forwarded.

Copies of these maps have also been forwarded to the Chief of Staff of the Army.

Respectfully,

GEO. W. DAVIS,
Governor.

The SECRETARY OF WAR,
War Department, Washington, D. C.

Whereas by the terms and provisions of Article II of the Convention for the Construction of an Interoceanic Canal between the United States of America and the Republic of Panama, signed by the representatives of the two nations on November 18, 1903, the ratifications of which were exchanged at Washington on the 26th day of February, 1904, the United States acquired the right of use, occupation, and perpetual control from and after the said 26th day of February, 1904, in and over the Canal Zone and other lands, waters, and islands named in said Article II of the convention aforesaid; and

Whereas it has not yet been, and is not now, practicable to make a complete, definite, and exact location of the precise boundaries of all the territory ceded to the United States by the terms and provisions of said Article II of said convention; and

Whereas the successful completion of the work of construction of the Interoceanic Canal across the Isthmus of Panama is of transcendent importance to the United States, to the Republic of Panama, and to the people of the world; and

Whereas in order that said work of construction of said interoceanic canal may be systematically prosecuted, and in order that a government for the Canal Zone created by the terms and provisions of said Article II of said convention may be successfully organized and carried forward, it is necessary that the extent and boundaries of the territory ceded to the Government of the United States by the Gov-

ernment of the Republic of Panama under the terms and provisions of said convention shall be provisionally determined and agreed upon.

Now, therefore, General George W. Davis, governor of the Panama Canal Zone, acting for and on behalf of the Government of the said Zone, and Señor Don Tomas Arias, secretary of state of the Republic of Panama, and Señor Don Ramon Valdes Lopez, attorney-general of said Republic, jointly acting for and on behalf of the Government of the Republic of Panama has delivered, and the Government of the United States has received, and had, on the 19th day of May, 1904, received, for its use, occupation, and control, the Isthmian Canal Zone described in said Article II of the aforesaid convention for the construction of an interoceanic canal, including lands and waters in the said Zone, lands under water, islands in said Zone, and the islands of Perico, Naos, Culebra, and Flamenco, do make this further agreement:

SEC. 1. The limits of the Canal Zone, including lands under water and islands ceded, but not including the cities and harbors of Colon and Panama, delivery of which lands, waters, and islands has been made by Panama, and possession of which has been taken by the United States, are indicated and shown on the attached map (marked "A"), signed by the parties to this agreement, as accurately as it is possible to indicate on a map with the existing information respecting the topography of the region traversed by the canal, by a heavy red line crossed with black, and drawn at the uniform distance by scale of five (5) statute miles on each side of the middle line of the canal, and said indicated boundary, or line of division, between the territory ceded by the Republic of Panama to the United States for canal purposes and the adjoining or abutting lands of the Republic of Panama is provisionally accepted, and will be strictly observed by the two Governments until the limits or boundaries of the said Zone, waters, and islands shall be definitely and finally marked, fixed, and determined.

SEC. 2. The limits of the city and harbor of Panama, as indicated and shown by a heavy red line crossed with black on the attached map (marked "B"), and as described on the paper attached to the said map, both of which are signed by the parties to this agreement, are provisionally accepted and will be strictly observed by the two Governments until the true and definite line of division between the Canal Zone and its waters, on the one hand, and the city of Panama and its harbor, on the other, shall be finally surveyed, marked off, fixed, and determined: *Provided*, That the outer or marine boundary of the harbor of Panama shall, as soon as practicable, be agreed upon and marked with buoys or other monuments.

SEC. 3. The limits of the city and harbor of Colon, as indicated and shown by a heavy red line crossed with black on the attached map (marked "C"), and as described in a paper attached to said map, both of which are signed by the parties to this agreement, are provisionally accepted and will be strictly observed by the two Governments until the true and definite line of division between the Canal Zone and its waters on the one hand and the city of Colon and its harbor on the other shall be finally surveyed, marked off, and determined.

SEC. 4. As necessity may arise special agreements will be made and entered into from time to time by the parties hereto or by their successors respecting the delimitation of any auxiliary lands or waters

outside the Canal Zone which may be found to be necessary or convenient to the construction, sanitation, or protection of the inter-oceanic canal or of its auxiliary works.

SEC. 5. The governor of the Canal Zone or his successors may employ the citizens of the Republic of Panama residing in the territory of the Republic, for which purpose the Government of the Republic gives them the permission mentioned in paragraph 2 of article 7 of the national constitution.

In witness whereof we have signed these presents in the city of Panama, this — day of June, 1904.

(Signed) GEORGE W. DAVIS,
Governor Canal Zone.

(Signed) TOMÁS ARIAS,
Secretary of State Republic of Panama.

(Signed) RAMÓN VALDÉS LÓPEZ,
Attorney-General Republic of Panama.

A true copy.

GEO. W. DAVIS,
Governor Canal Zone.

Provisional delimitation of boundaries between the territory of the United States of America on the Isthmus of Panama, known as "The Panama Canal Zone," and the city and harbor of Panama, in the Republic of Panama, being the delimitation to which reference is made in the agreement entered into between the government of the said Canal Zone and the Government of the Republic of Panama, signed by General George W. Davis, governor of the said Zone, on behalf of the said government of the Canal Zone, and by Señor Don Tomas Arias, Secretary of State, and by Señor Don Ramon Valdes Lopez, attorney-general, on behalf of the Government of the Republic of Panama, as follows:

Beginning on the shore line of the Pacific Ocean at a stake driven above high-water mark on Punta Paitilla, thence on a straight line northwesterly to a similar stake driven upon the summit of Cerro Pelado, which hill is situated on the south side of the Savanna road, said stake being about eighteen hundred (1,800) metres northeast from the Caledonia Bridge; thence on a straight line to a similar post driven on the summit of Cerro Corundu; thence on a straight line to a similar stake at the southeast corner of the tract of land known as Le Section and upon the north side of the hospital road; thence on a straight line crossing the road leading from Panama to the hospital across the meadows and fields to a similar stake driven on the north side of the road leading from Panama to La Boca, about seventy-five (75) metres from the old walled spring Chorillo; thence southwesterly in a straight line across La Boca road to a similar stake driven at high-water mark upon Punta Mala, near the islet of Gabilan.

At each of the stakes above mentioned and at each of the other calls above given for the purpose of marking the boundary in question there shall be set a masonry monument about one (1) metre square and one (1) metre high, and in the center of the masonry and projecting about sixty (60) centimetres above it shall be placed an iron

column or post marked on the side of the Canal Zone with the letters U. S. and on the opposite side with the letter P.; all of said letters to be about six (6) centimetres in height, these monuments to be erected as soon as practicable at the expense of the United States.

(Signed) GEORGE W. DAVIS,
Governor Canal Zone.
(Signed) TOMÁS ARIAS,
Secretary of State Republic of Panama.
(Signed) RAMÓN VALDÉS LÓPEZ,
Attorney-General Republic of Panama.

Professional delimitation of boundaries between the territory of the United States of America on the Isthmus of Panama, known as "The Panama Canal Zone," and the city and harbor of Colon, in the Republic of Panama, being the delimitation to which reference is made in the agreement entered into between the government of the said Canal Zone and the Government of the Republic of Panama, signed by General George W. Davis, governor of the Canal Zone, on behalf of the government of said Zone, and by Señor Don Tomas Arias, secretary of state, and Señor Don Ramon Valdes Lopez, attorney-general, on behalf of the Government of the Republic of Panama, as follows:

The city of Colon: All that portion of the island of Manzanillo which is above low water, except the tract of land reclaimed from the sea and generally known by the name of La Terre Plein de Crostobal Colon, and the boundary between said La Terre Plein and said city is as follows:

Beginning at a point on the northern shore line of Boca Chica, sometimes called Folks River, said point being fifty (50) metres to the eastward of the middle of the main line of track of the Panama Railroad; thence northward and northwestward, always parallel with the said railroad track and at a uniform distance of fifty (50) metres from the middle line thereof, to the middle line of Bolivar street (sometimes called C street); thence along the middle line of said Bolivar street to the middle line of Eleventh street; thence along the middle line of Eleventh street to low-water mark on the shore of the harbor of Colon.

The harbor of Colon: All that portion of said Limon Bay lying westward of said city of Colon and northward of a straight line drawn from the center of the existing monuments of Cristobal Colon, true west to the westerly shore of Limon Bay: *Provided, however,* That the entrance channel of the Panama Canal through said harbor of Colon to its southern boundary, of the width of three hundred and thirty (330) meters on either side of the middle line or axis of said entrance channel wherever said channel may now or hereafter cross the same, is hereby declared to be a part of the Canal Zone, under the exclusive jurisdiction and control of the United States, the limits of said channel through said harbor to be suitably marked by buoys or otherwise: *And provided further,* That the said Terre Plein between the said monument of Cristobal Colon and the middle line of Eleventh street extends to low water.

There are excepted from the city and harbor the existing light-house on Manzanillo Island, and all land lying within thirty (30) metres thereof, these being within the Canal Zone.

(Signed) GEORGE W. DAVIS,
Governor Canal Zone.

(Signed) TOMÁS ARIAS,
Secretary of State Republic of Panama.

(Signed) RAMÓN VALDÉS LÓPEZ,
Attorney-General Republic of Panama.

(Thereupon, after an informal discussion, the committee adjourned until Monday, April 2, 1906, at 2 o'clock p. m.)

ISTHMIAN CANAL.

COMMITTEE OF INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Monday, April 2, 1906.

The committee met at 2 o'clock p. m.

Present: Senators Millard (chairman), Kittredge, Hopkins, Morgan, and Taliaferro.

STATEMENT OF MAJ. GEN. GEORGE W. DAVIS, U. S. ARMY, RETIRED—Continued.

Senator MORGAN. General Davis, at our last meeting we were discussing the question of a report that you had made to the Isthmian Canal Commission, of which you were then a member, and a letter of Mr. De Obaldia, who was then minister of foreign affairs, I believe, in Panama.

General DAVIS. In Washington.

Senator MORGAN. He was minister from that Government to this?

General DAVIS. Yes, sir.

Senator MORGAN. At that time?

General DAVIS. Yes, sir.

Senator MORGAN. Have you that letter?

General DAVIS. Yes, sir; a copy of it.

Senator MORGAN. This report of yours was made to inform the Commission and the Secretary of War of all the circumstances and conditions under which you conducted the preliminary negotiations with the Government of Panama by direction of the President?

General DAVIS. Well, in a letter of the President, addressed to the President of the Republic of Panama, given to me before I sailed for the Isthmus, there was a request expressed by the President to the chief executive of the Panama Republic that he should discuss with me all matters respecting the work that the two nations were so much interested in, and it also contained the phrase that he was sending me there as governor, and he wished the President of Panama to regard me as his, our President's, personal representative.

Senator MORGAN. As his personal representative?

General DAVIS. Yes, sir. That language was used in the letter.

Senator MORGAN. Had we a minister at Panama at that time?

General DAVIS. We had a minister at Panama, but he had not yet reported.

Senator MORGAN. I mean, there was no minister at Panama?

General DAVIS. No; there was a chargé there.

Senator MORGAN. And you really took his place in these preliminary negotiations?

General DAVIS. I should scarcely say that I took his place, but I felt entirely competent to discuss with the Government of Panama any questions that might be necessary.

Senator MORGAN. By "competent" you mean authorized?

General DAVIS. Authorized; yes, sir.

Senator MORGAN. And this report that you made embodies the transactions and communications that you had with that Government?

General DAVIS. It does.

Senator MORGAN. Under that authority?

General DAVIS. Yes; it embodies a sketch of it. It does not pretend to give every detail of the negotiations.

Senator MORGAN. But it is your report of what you did?

General DAVIS. Yes, sir.

Senator MORGAN. And you consider it a full report?

General DAVIS. Yes, sir; it is a full statement.

Senator MORGAN. I want, Mr. Chairman, to have this report printed, along with the letter of De Obaldia, as an appendix to the testimony of General DAVIS.

The CHAIRMAN. I do not understand that there is any objection on the part of any member of the committee, and therefore that will be done.

Senator KITTREDGE. May I ask one question here, Senator?

Senator MORGAN. Yes.

Senator KITTREDGE. Did you, while governor of the Zone, investigate the question of customs duties and the revenues of the Government?

General DAVIS. I considered them, and of course that involved investigation; as my functions were confined to those of carrying out the instructions of the President, and they involved the maintenance of government, and as taxation was one of the functions of government, of course the investigation of those subjects was an important one, and I would answer, "Yes."

Senator KITTREDGE. Was the result of your investigation included in that report?

General DAVIS. It is very often referred to; and in the annual report that I made at the end of the year you will find the statement of all revenues collected.

Senator KITTREDGE. Has that report been published in full?

General DAVIS. Oh, yes. It has all been published excepting a matter of a page or two that we were talking about here the other day, which is of no consequence.

Senator MORGAN. You insist upon that being of no consequence, and I insist that it is of consequence. I want it to go in your report when it is printed.

General DAVIS. That, Senator, is another report from this.

Senator MORGAN. I know.

Senator KITTREDGE. Have you reduced your views to writing in any other manner upon this subject I have mentioned except as you have stated them in the reports?

General DAVIS. On the subject of taxation and revenue?

Senator KITTREDGE. Yes.

General DAVIS. No, sir. Those two reports that I made contain all that I have written on the subject.

Senator KITTREDGE. They cover your views fully?

General DAVIS. Yes; they cover them fully.

Senator TALIAFERRO. You spoke of two pages being omitted from this other report—this second report you have referred to?

General DAVIS. Yes, sir.

Senator TALIAFERRO. How does it come that two pages were omitted from each report?

General DAVIS. I think I related to you Friday that when the report was sent to the Commission—the Commission being in session here in this city and I being on the Isthmus—the Commission, you might say, “blue penciled” the report to a very considerable extent. They left out probably about half of it, on the ground, I think, that in this report I had made I had been discussing two subjects, one of the subjects reported upon by me as governor of the Canal Zone and the other subjects of a larger nature that related to the functions and duties and responsibilities of the Commission itself; and they thought that in a report of the governor it was not necessary—I can not say that I should use the expression not proper, although perhaps they meant to use it—to include in the report of the governor anything that was of the larger scope—that is, the subjects that concerned the Commission or myself as a member of the Commission. The part that they omitted was the part that related to the broader questions of constructing the Panama Canal.

I felt dissatisfied with the way they had left me in that respect. I felt that if I was to appear as having made a report at all, the report ought to be complete. I said to the Commission that I was content to have the whole report suppressed; that I had no objection to that; but that if the report was printed I thought the whole of it ought to be printed. They did not agree with me. I appealed to the Secretary of War, and he read the report and directed that the remainder of it, excepting the couple of pages, be printed; and it was done by his direction, and it now appears in the first annual report of mine as “Supplemental report of General Davis, governor of the Canal Zone.”

There were two or three pages omitted, and all the appendix matter was omitted, which contained the full history of this Zone delimitation and the maps which describe it—the three maps which are here now. That is one of them, that is another, and another is here [indicating].

Senator MORGAN. The two pages that were stricken out never did appear in print?

General DAVIS. No, sir; so far as I know.

Senator MORGAN. You have got those?

General DAVIS. I have.

Senator MORGAN. I will ask, if you please, that you show us that report as it was printed and the two additional pages.

General DAVIS. I have the report, but I have failed to bring with me the omitted pages.

Senator TALIAFERRO. The De Obaldia letter is also to be printed.

General DAVIS. Yes, sir; this is it here. I have had a conversation with Secretary Taft since your last meeting, and I mentioned to him this particular document, the De Obaldia letter, with which he is quite familiar, and he said he had no objection to this paper being printed, and the reply that Mr. Hay made to the De Obaldia

letter, and that he intended himself, when he came before your committee, to submit those documents.

Senator HOPKINS. If he is going to do that, we do not want it in twice.

Senator KITTREDGE. It is properly in here.

The CHAIRMAN. It properly follows in here, I think.

Senator MORGAN. General, I have here a pamphlet entitled "Isthmian Canal Commission—Sundry Technical Reports in Relation to the Panama Canal, Covering the Period 1899 to 1904, Inclusive, Compiled under the Direction of the Chief Engineer, January, 1905." Was that printed by order of the Commission?

General DAVIS. I think not. That document, as I remember, was printed on the government press at Panama, by direction of the chief engineer, Mr. Wallace. The general subject discussed in that pamphlet, you will observe, is engineering, and he collected together all those documents in Panama and had them printed about February or March, 1905. I received a copy from Mr. Wallace in Panama. After that, there were several copies sent to the Commission. The Commission, so far as I know, did not order the printing of the documents.

Senator MORGAN. Mr. Chairman, this document contains some very important papers that are put together here. I speak of them as being important in respect of the value of the information that they convey, including the report of Major Black, made to the Panama Canal Commission, I suppose.

General DAVIS. Made to Admiral Walker, who was then chairman.

Senator MORGAN. Yes.

General DAVIS. I think they were made to him while Admiral Walker was chairman of the first Commission, not as chairman of the second. At all events, some of those reports were addressed to him in his former capacity.

Senator MORGAN. This document contains the report of Monsieur Choron, chief engineer of the New Panama Canal Company; an abstract from the report presented to the council of administration of the company by the technical committee, constituted by virtue of article 31 of the statutes of the New Panama Canal Company; a possible source of water supply for Colon and Panama, by Major Black, April 2, 1904, and a statement of preliminary projects for sanitary work of Colon, formation of entrance channel to the canal and inner harbor at Colon, by Major Black; report of work done by the party under the charge of Major Black, dated April 2, 1904, which party was sent to the Isthmus in anticipation of the turning over of the property; and then the general report of Major Black, made to Admiral Walker, when Major Black concluded his work there and was relieved from duty, and a project outlined in a report of the Isthmian Canal Commission of 1899-1901, by Rear-Admiral John G. Walker, U. S. Navy, president.

All of these papers appear to be important, and this document is also accompanied with an appendix.

I move that this paper be printed, to stand as an appendix to the report of the committee that we will make to the Senate, in order to present to the Senate a condensed statement of very important facts that otherwise would perhaps be unavailable to Senators.

The CHAIRMAN. Suppose we could get a sufficient number of these to answer the requirements; would that do, or would you prefer to have it printed as a public document?

Senator MORGAN. When we make up our reports and send this great mass of papers to the Senate, this should be an appendix to that. I do not mean to put it as an appendix to General Davis's testimony.

The CHAIRMAN. I understand that.

Senator MORGAN. But as a general appendix; and I make that motion.

The CHAIRMAN. That it be printed as a document?

Senator MORGAN. Yes.

Senator HOPKINS. As a part of the hearings before the committee?

Senator MORGAN. As an appendix to the hearings before the committee.

Senator TALIAFERRO. I second the motion.

(The motion was carried.)

Senator MORGAN. The next document that follows that in historical or chronological order is the First Annual Report of the Isthmian Canal Commission, and a letter of the Secretary of War transmitting that report. I move that that be printed also as an appendix to the general report, to succeed the paper that I have just read. That preserves the chronological order of all the reports as they come up.

Senator HOPKINS. That is to be published to follow the last paper you submitted, as a part of the hearings before this committee?

Senator MORGAN. Yes.

The CHAIRMAN. There appears to be no objection, and that will be done.

Senator MORGAN. General, the other day I asked you to please furnish an answer to a question that I wrote out and handed to you. Are you prepared to do it now?

General DAVIS. I can answer it.

Senator MORGAN. I shall be very glad if you will read the question, and then answer it.

General DAVIS. I will say, as a preliminary, that to answer a question of a technical nature like this offhand is not very easy, but I have done the best I could. If the answer was to be made the basis of any action, I should wish to revise it, because I have not had time to study some phases of it, or a good many phases of it. This is the question:

"A sea-level canal from the 40-foot contour, in the Bay of Limon, hugging the hills on the right bank of the Chagres to a point about 1 mile from Gamboa, where a lock of 30-foot lift is to be built. The spoil from the canal channel to be embanked on the line next to the river, to protect against the waters of the Chagres and its affluents that enter through its left bank. This embankment to be used in connection with a drainage channel to carry off the overflow of the Chagres, when needed.

"2. A dam at Gamboa, of the dimensions given in the report of the minority of the Board of Consulting Engineers, and, connected with it, the viaduct and regulation works suggested by Menocal.

"3. The viaduct to lead into a lock with lift of 30 feet connected with it on its eastern entrance, making two locks of 30-foot lift and,

say, 1 mile apart, to connect the sea-level part of the canal with the summit level of the lock section, which will be in the viaduct and extend to Miraflores, or Pedro Miguel, where two locks, each with 30-foot lift, will connect the lock section of the canal with the sea-level canal from the point of junction out to the Bay of Panama.

"4. The drainage channel from Gamboa, to take care of the flood waters of the Chagres, will occupy the present bed of the river, where it is not taken into the sea-level section of the canal, and those parts of the present bed of the Chagres connected with each other by short diversion channels, and the canal embankments will, probably, be carried through the Gigante watershed to the swamps, and out to the sea."

In answer to that question I will say:

First, that the word "minority," where it appears in the second paragraph, is probably a misprint for the word "majority," for the minority do not propose a dam at Gamboa.

Senator MORGAN. Yes; it should be majority.

General DAVIS. The idea as I understand it is (reading):

"(a) To make the Atlantic maritime section extend to 1 mile below Gamboa, or to about the point where the sea-level canal as projected last crosses the Chagres, the channel to hug the foothills on the right bank of that stream all the way and to be shut out from the same by an embankment or levee; the first lock of 30 feet lift to be placed near mile 30, sea-level map.

"(b) To build the Gamboa dam as proposed by the majority and make it, in addition, a viaduct, to which the channel, approaching from below, would join, the regulated flow of the Chagres to be carried under the viaduct and discharge into the pool below, supposed to have been created above the lower lock close by.

"(c) To build a lock at the southern end of the viaduct with 30 feet lift, so raising the surface level to plus 60 feet.

"(d) To then carry the canal through the summit cut Culebra at level 60 for water surface, or plus 20 above sea level for bottom of canal, and lock down to the south of Culebra with two 30-foot locks, one at Pedro Miguel and one at Miraflores; the Pacific sea-level section, with width of 300 feet, to extend to the lower lock at Miraflores, which would serve as a tide and lift lock combined."

Is that a fair statement of it, Senator?

Senator MORGAN. That is a fair statement of it.

General DAVIS (continuing): "The plan does not seem to me to be a practicable one, for the following reason:

"The first or northernmost lock lift, 30 feet, would be situated just outside or on the convex side of the bend of the Chagres to the northeast of the mile mark 30. Just at mile 30 the sea-level location crosses the Chagres, and the bed of the stream at this point is a little more than 30 feet above the sea. A half mile above that point, where the same location crosses the Chagres the last time, the river bed is nearly 40 feet above the sea.

"Since the lock is to have only 30 feet lift, the water level above it in the canal will be 40 to 50 feet below the bed of the Chagres just alongside or very near.

"Having passed this lock, the bed of canal still 10 feet below the level of the sea, navigation across the line of the Chagres is to be

secured by a viaduct, its floor at the same level as the canal, but the present surface of the earth in the valley where the Gamboa dam and the viaduct are to be placed is now 50 feet above the level of the sea, or it will be 60 feet above the floor of the viaduct which is to be built alongside of and in connection with said dam. Then there are to be sluices beneath the viaduct for carrying away the regulated Chagres flow, and they are to be inclosed in masonry, according to Mr. Menocal's design, this masonry serving as viaduct floor also. The thickness of the concrete mass from the floor to the invert of the sluices is given as 16 feet, so that the bottom of the sluices will be 76 feet below the general ground surface and 26 feet below sea level; in other words, it would be necessary to excavate 26 feet into the rock for the viaduct foundation, or else the sluices would have to be sunk into the rock to that depth, and the top of the circular sluice openings would be 66 feet below the present river bed.

"It is thus made manifest, I think, that the plan proposed would not practically be realizable."

It is a technical matter, and it is rather difficult to follow, but I have tried to make it clear.

Senator KITTREDGE. This question practically contemplates what is known as the Menocal survey?

General DAVIS. I have a little more to say in respect to that matter.

Senator KITTREDGE. I thought you had finished.

General DAVIS. I have finished in answering that question. I have a little more to say on this Menocal idea; but of course, I do not want to thrust it upon you.

Senator KITTREDGE. We would be very glad to have it, General. I thought you had finished.

General DAVIS (continuing): "Menocal's idea was to cross the Chagres by a viaduct with water level at +96 feet or 66 feet above the level proposed by the question. For such a disposition of prism and levels the viaduct, considered by itself, is all right. He proposes three locks to the north of Gamboa, on the line of suggested route, always on the right bank of the Chagres, which it never crosses until Gamboa is reached."

Senator KITTREDGE. If it will not bother you, General, and you have not touched upon the question in your answer, will you indicate on the map where Menocal's three locks were? I have forgotten just where they were located.

General DAVIS. He has one lock, as I now remember, about opposite mile 28; I am not quite sure, but it is about there. He has another lock opposite Frijoles, somewhere in here [indicating on map], and his third lock is right in those hills, near Tiger Hill. Those are his three locks.

Senator KITTREDGE. That is about 3 or 4 miles from Gatun?

General DAVIS. Well, about 3 miles from Gatun, or a little less.

Menocal's line from near Gatun to Gamboa would always be in excavation, with many high spurs or ridges to cut through shown as of height above canal floor up to 235 feet. These can only be considered approximations, for we know very little about the topography away from the surveyed routes in the middle of the Chagres Valley.

"If the ground were generally level, with gentle slope all the way from Gatun to Gamboa, which it is not, a lock canal might well be

built on his plan, with the Gamboa viaduct, but always with the idea of converting it into a sea-level proposition on line of present sea-level plan, the lock canal to be abandoned when the other should be realized, and utilized thereafter as a drainage or diversion channel for the disposal of the flow of the Chagres and other minor streams on the right bank from Gamboa to Tiger Hill, but with existing knowledge of the topography and strata it is impossible to say what the cost would be, for every yard required to be removed in making the final sea-level canal would ultimately have to be taken out. I know the author of this suggestion, and have a high respect for him as an engineer."

That covers all that I have to say on that subject.

Senator MORGAN. If I understand your proposition or your conclusion about this matter, the viaduct that is proposed by Mr. Menocal could not be lowered below a 66-foot level.

General DAVIS. I think it is impracticable, Senator. You can think of it, that you would have to take the water down vertically about 60 feet below the present level of the surface before you could get it into the sluices.

Senator MORGAN. Leaving out the question of the regulation by valves, or whatever it is he has got in there, is it your judgment that a lock canal at a level of 60 feet can be connected with a sea-level canal below Gamboa, or in the vicinity of Gamboa, and carried across the Chagres River on a viaduct?

General DAVIS. No, sir; I do not think it can be on a viaduct. By the word "viaduct" you mean what in other parlance you might call a flume, made of concrete?

Senator MORGAN. Yes.

General DAVIS. In which the navigation would be conducted, while the flow of the river would pass under it. That is what we understand by "viaduct" in that sense.

Senator MORGAN. The regulation flow—that is, the overflow——

General DAVIS. The spilled water of the river above to pass under the viaduct.

Senator MORGAN. It would not fill the viaduct if it passed under it.

General DAVIS. It would pass underneath it entirely and have no connection with it. You see that in hundreds of cases of our own canals all over the country when the stream coming from the hills passes under the canal.

Senator MORGAN. I understand that; but, leaving the dam at Gamboa, as it is projected by the majority of the Board of Consulting Engineers, of the same height and thickness and width and everything of that sort; impounding the waters to the extent that you have already described in your deposition; is it practicable to locate two locks in the vicinity of Gamboa, between that and Matachin, having 30-foot lifts, so as to make a 60-foot transit across the Chagres River at that place through a viaduct, leaving the regulation works out entirely, and leaving them to be disposed of by some other process? Can two locks be put in there, in your judgment, to raise the level of the canal to 60 feet above sea level, convey the water across the Chagres River and on out to Miraflores? Is that practicable?

General DAVIS. I do not think it is, Senator.

Senator MORGAN. You think not?

General DAVIS. No; I do not think it is. The trouble with your viaduct is that it is not high enough; it is not high enough up.

Senator MORGAN. Far enough upstream?

General DAVIS. No, sir; not sufficiently elevated. It is not raised enough to serve the best purpose. In other words, you do not gain anything by using it. You would a great deal better come up with a lock canal along the valley of the Chagres, coming up with your locks, one or two below Gamboa and one at Obispo, and throw out the viaduct altogether, because it does not seem to me that the viaduct fulfills any useful purpose in that connection.

Senator MORGAN. Is such a plan as you have just suggested practicable, at a 60-foot level?

General DAVIS. No, sir; I should go higher.

Senator MORGAN. How much higher?

General DAVIS. To 90 feet, if you must make a lock canal; and I have a little something to say about that, if you wish to hear it.

Senator KITTREDGE. You mean, along the line of the Menocal plan?

General DAVIS. No, sir.

Senator KITTREDGE. That is some other feature?

General DAVIS. This is entirely separate and distinct.

The most readily transformable lock canal that I can think of would have about 90 feet for summit level, one lock of 30 feet, say at San Pablo—

Senator MORGAN. That is between Matachin and Gamboa, is it not?

General DAVIS (indicating on map). There is Bohio; there is San Pablo, and here is Gamboa; just about halfway. The other day I said it was about one-third of the way. It is about halfway.

Senator KITTREDGE. How many miles north of Gamboa is San Pablo?

General DAVIS. San Pablo is halfway between 24 and 25; the Chagres at Gamboa is halfway between 30 and 31.

Senator KITTREDGE. About 7 miles?

General DAVIS. It is 6 miles, about.

I was just saying that the most readily transformable lock canal that I can think of would have about 90 feet for summit level, one lock of 30 feet, say at San Pablo, another 2 or 3 miles above, and a third at Obispo on the Atlantic side, with the same number on the Pacific side, the most southerly one at Miraflores—all the locks practically on sea-level line.

Senator MORGAN. What would be the lift of those locks?

General DAVIS. Thirty feet each—90 feet.

Senator MORGAN. That would be 90 feet elevation?

General DAVIS. Yes, sir.

The cost of the locks and spillways would be in the neighborhood of 40 million dollars—

Senator MORGAN. The three locks?

General DAVIS. Six double locks.

Senator KITTREDGE. How does that cost compare with the cost of the locks at Gatun and at Miraflores—

General DAVIS. It is more or less the same. I have made it a little higher than their figures. They are all separate, you know.

Senator KITTREDGE. I understand.

General DAVIS. There are none of them associated together. They are not in steps.

Senator MORGAN. They are not in flights?

General DAVIS. No, sir; they are not in flights, like a staircase.

The cost of the locks and spillways would be in the neighborhood of 40 million dollars, or, if not in pairs, about 20 million, while the saving in excavation and tidal lock, covered by sea-level estimate, would probably reach 100 million, resulting in a net saving of about 60 million in the one case and 80 million in the other; but these figures are but a very rough approximation. It might possibly be finished in three or four years less time than the sea-level work, or in five years if single locks were used.

Single locks are not suggested as desirable; but as such a lock canal would be a provisional affair, to be replaced by the ideal type within a few years, single locks might be tolerated for those years, during which it may be expected the traffic will not be large.

I think that is a correct statement. The traffic in any canal or work of that kind will not jump to enormous proportions at once.

To transform such a waterway into one at sea level would cost 200 million, unless devices for excavation and removal should be greatly improved over present types and methods.

The only arguments in favor of the provisional arrangement are present decreased cost and a few years' saving in time. Ultimately the cost will be very greatly augmented.

Senator MORGAN. Your proposition, then, or your conclusion is that no lock canal can be constructed, we will say, between Gamboa and Miraflores to be supplied by the waters of the Chagres at a level lower than 90 feet?

General DAVIS. Oh, yes; it could be done, but it would not be as good a canal as this. It could be done. There is no doubt about your being able to do it, but the viaduct idea would be of no use to you.

Senator MORGAN. I understand. Leaving out that entirely, I am speaking of a lock canal 40 feet deep and of the width as proposed by the minority.

General DAVIS. That is what is contemplated.

Senator MORGAN. Could such a canal as that be constructed at a lower level than 90 feet to be supplied by the waters from the Gamboa Lake at a lower level than 90 feet above sea level?

General DAVIS. Oh, yes, sir. On this map that was covered up just now the widths are all exaggerated, so that it is not to a natural scale. By bringing a sea level to this point, which is just above Obispo, putting a lock there, which is shown on this map, and another lock there, which is shown on this same map, you then reach 60 feet above the sea and pass through the Culebra. At Paraiso you put in another lock here and drop down, and a mile below another lock here, at Pedro Miguel, and then you have a sea level Pacific marine section.

Senator MORGAN. That would be how many locks?

General DAVIS. Four at 30 feet.

Senator MORGAN. Four twin locks?

General DAVIS. Yes. But it would not save a great deal of excavation, because they are separated and the bottom of the canal will only be 20 feet above the level of the sea.

Senator MORGAN. Twenty feet at 90-foot elevation?

General DAVIS. No, sir. With a 60-foot elevation the bottom of the canal would only be 20 feet above the level of the sea.

Senator MORGAN. And how much with a 90-foot elevation?

General DAVIS. Thirty feet more—50 feet.

Senator MORGAN. Yes.

General DAVIS. I made a profile of this to see how it looked; but after I had the profile made I discovered the idea. You come up with the sea-level idea, say to here [indicating]; then you come up 30 feet; then you come up 30 feet more, like that; then you go through; then you drop down 30; then you drop 30 more, and all there is left to take out is a comparatively small amount. To save excavation and to save time as respects the Culebra, two of the locks should be a little outside of Gamboa—that is, north of Gamboa, probably at San Pablo and Matachin, for example, two of them, and a third one at Obispo. That brings you up to 90 feet. That will save more money.

Senator MORGAN. The main point in my mind, at least, about the whole matter, is whether or not a lock canal can be constructed between Gamboa and Miraflores to be fed by the waters from Lake Gamboa.

General DAVIS. Oh, there is not a doubt about that. There is three and a half times as much water for feeding that lock canal as the lock people have from Lake Gatun.

Senator MORGAN. But your present conclusion would be that it would require at least four locks?

General DAVIS. To make it the most economical type of canal—I mean to save the most money and the most time now, not looking to the future, but now, and to make it one that is transformable.

Senator MORGAN. Yes.

General DAVIS. I regard that as fundamental.

Senator MORGAN. Yes.

General DAVIS. The lock people, you know, do not regard the idea of transformability as of any importance. They reject that. They say, "A lock canal built now should be built for a long time to come." I take the other view as to that—that we should construct no canal whatever that is not readily adaptable to transformation.

Senator MORGAN. That the country will as last come to the proposition of a sea-level canal?

General DAVIS. Well, of course it is foolish to prophesy; but I think there is no doubt about that.

Senator MORGAN. We are all necessarily compelled to rely upon conjecture or calculation as to what is to occur hereafter. That is the trouble we are in to-day; we are trying to find out what is best to be done with reference to future conditions. So that if the Government should come to the conclusion that a sea-level canal from the Bay of Limon to the vicinity of Gamboa and a sea-level canal from the Bay of Panama to the vicinity of Miraflores should be fixed upon as an established, permanent proposition, you think that a lock canal is practicable between Gamboa and Miraflores, to be fed by the waters of Lake Gamboa?

General DAVIS. I have not a doubt of it; not a doubt of it.

Senator MORGAN. I am putting this proposition before the committee and before the Senate with a view to ascertaining whether there is any middle ground that can be taken by the Congress between the sea-level advocates and those who wish to make the lock canal as

a permanent establishment, and extend the flow of water by means of the dam at Gatun clear across to Miraflores.

General DAVIS. Yes, sir.

Senator MORGAN. There is evidently a contrariety of opinion as to which of the two propositions is the safe one and the better one, and I was trying to find whether there was a middle ground that could be taken, establishing a sea-level canal from the Bay of Limon to the vicinity of Gamboa and from the Bay of Panama to the vicinity of Miraflores, the interval to be supplied with a lock canal to be fed by the waters of Lake Gamboa, as we call it.

General DAVIS. Yes, sir.

Senator MORGAN. That was what I was trying to bring to the attention of the country.

General DAVIS. Yes, sir.

Senator MORGAN. I do not know that I have any occasion to press that question any further upon the attention of General Davis, unless some member of the committee wants to ask about it.

General DAVIS. There is just one word, Mr. Chairman, that I might say as bearing upon remarks made formerly (that is, Friday) in this committee respecting the idea of waiting to see the result of this excavation as regards the necessity for a tidal lock—that was one of the points—so as to ascertain what rate of progress might be attained in the excavation, the idea being that the work as it progressed might furnish examples and demonstration, and that the final realization of the sea-level plan would thus be made manifest.

That is all right, but you can not wait very long before you determine definitely the matter of type. You can not wait very long, for it is going to take a good while to build those locks. You can not afford to stand still on the lock proposition, waiting to see how well you get on in excavation. In other words, you must begin at once to make those lock pits. It is going to require the removal of an enormous amount of earth to get a pit in which to put the locks. It is going to take two or three years to make the lock pits.

Senator KITTREDGE. You mean the excavation?

General DAVIS. Yes; the excavation for the locks is going to take two or three years. The minority estimate it will take four years to make the Gatun locks, or three and a half—I have forgotten now whether it is three and a half or four. So, if you are looking ahead to a date when you can see your canal completed, you can not afford to wait very long before you begin to build your locks. It will take a good many months and years to do that. Therefore that phase of the matter should not be overlooked.

Senator MORGAN. I suppose you have some conception (perhaps not a calculation) of how long you would have to wait before you could determine whether you would make a sea-level cut between Gamboa and Miraflores, or wherever you would interpose a lock canal?

General DAVIS. Yes; of course I could not say about that. I only know that the engineers who are going to build that canal ought to know as soon as possible whether they are going to build locks or not. They ought to know that. As to the idea that is expressed in this paper about a provisional canal, I myself think that for twenty years after the canal is opened a single lock will serve all or nearly all the purposes. A single lock served at the Soo, you know, from 1855 to 1886, I think it was, or 1882. I have forgotten the year now.

Senator MORGAN. Until the commerce got so great—

General DAVIS. Until the commerce got so great as to force them to build larger ones. Now, if you build a single lock it will probably pass all the shipping that will present itself there; certainly it will pass all that is likely to come in the next twenty years. And even if it was attended with some difficulty or some delay you would be so much better off even with that sort of a plan than you are without any that you would be willing to tolerate some inconvenience and then look to the ultimate, which is the taking away of these provisional locks and going down to sea level. I am not a lock man, as you know, and I am only speaking of this as something that is a sort of a forced compromise.

Senator MORGAN. The situation is such and the contrariety of opinion—at least as I believe it to be—at this board is so great that it is worth while to look for some plan that will cause the opposing and antagonistic views to meet. I think it worth while, so I have been trying to look into the question to see what the possibilities are in regard to the construction of the canal.

General DAVIS. I should not think you ought to take my offhand opinion on this subject as settling any question of cost or expense or time.

Senator MORGAN. Oh, no; I am not trying to hold you to it as a settled and fixed opinion at all. While it is not conjectural, it is the statement of opinion of one who knows all about the local situation, which, of course, the committee can not know personally.

General DAVIS. In the course of ten days, I suppose, a computation could be made so as to give you figures as exact as those the majority and the minority have given you.

Senator MORGAN. Yes.

We have been speaking in the course of this general examination of the necessity for a change in the roadbed of the railroad. I have not as yet been informed as to what change is proposed to be made or the necessity for it. The railroad as it is now built runs up to Barbacoas and there it crosses the Chagres River?

General DAVIS. Yes, sir.

Senator MORGAN. From the right bank of the Chagres to the left bank?

General DAVIS. That is right.

Senator MORGAN. How far does that railroad pursue what we might call the valley of the Chagres before it leaves and goes—

General DAVIS. It crosses at mile 24, and comes on here. Now, to what point, Senator? You say how far is it from where it crosses to what point?

Senator MORGAN. To Miraflores.

General DAVIS. Miraflores is at mile 41—17 miles.

Senator MORGAN. The length of the railroad from the time it crosses the Chagres at Barbacoas until it reaches Miraflores is—

General DAVIS. Is 20 miles.

Senator MORGAN. Is 20 miles; and that is to the westward of the canal line?

General DAVIS. It is at the westward of the canal line, except that at mile 39 the present railroad track recrosses the line of the canal, and from that continues on the northern side of the canal line all the way to the city of Panama.

Senator MORGAN. So that the railroad as at present constructed would cross the canal line at two places—first at Barbacoas and afterwards go back?

General DAVIS. Yes, sir; and afterwards go back on to the same side again just here between Pedro Miguel and Paraiso.

Senator MORGAN. Now, please indicate what change is to be made in the location of the line of the railroad in the heights there between Gamboa and Miraflores.

General DAVIS. I think it is agreed by all engineers who have studied the matter, and I think they all admit this is a fact, that the railroad may stay just where it is until you are ready to open the canal for traffic. Of course you will have a high bridge across here at Pedro Miguel, and you will have a suitable crossing here at Barbacoas, perhaps with a draw in it, so that the dredges can go backward and forward. But I think that we all agree that the railroad track may stay where it is until your canal is ready for use as a canal.

Senator MORGAN. Having draws to allow the passage of the dredges?

General DAVIS. Yes; during construction.

Senator KITTREDGE. That is on the sea-level plan, General?

General DAVIS. Yes; on the sea-level plan, and I do not know but I should say on the lock plan, except that on the lock plan, so far as Lake Gatun is concerned, when that lake is filled (which would not be until just before the canal was opened) the railroad must then be carried around the margin of the lake and must keep away from it. It is the proposition of the lock-canal advocates to divert the railroad from Gatun and keep on nearly uniform ground, or, rather, ground above the proposed level of the Gatun Lake, and so swing around in here, crossing the Chagres just below Gamboa, where the Frenchmen built the railroad bridge which some of you gentlemen have seen.

Senator MORGAN. That will be on a bridge?

General DAVIS. That will cross on an iron or steel bridge that is there now, and then swing along on these hills, winding around, avoiding grades, and so on down until you come to Pedro Miguel; and then it will run where it was first intended to, and where it has been all the time, to Panama.

Senator KITTREDGE. That contemplates, then—

General DAVIS. A long diversion.

Senator KITTREDGE. Practically a diversion for practically the entire length of the line?

General DAVIS. Yes.

Senator KITTREDGE. That is, from Gatun to Miraflores?

General DAVIS. Yes; or from Gatun to Pedro Miguel. It contemplates a diversion all that distance.

Senator KITTREDGE. And the abandonment of the villages and tracks between those points?

General DAVIS. Oh, yes; certainly.

Senator MORGAN. It is practically the construction of a new road?

General DAVIS. Yes.

Senator MORGAN. From Gatun to Miraflores?

General DAVIS. Yes; that is what it is.

Senator MORGAN. And on the opposite side of the canal from where it is located at present?

General DAVIS. Yes, in part.

Now, as a sea-level proposition, the railroad question seems to be this: During construction the railroad is going to be of immense importance, of very great importance. After the canal is finished the railroad is simply going to be a convenience and of minor importance, but still it will have to be kept up. Probably it will be a trolley road. It will not be a freight road except for small, local freight; but it will be a convenience to the inhabitants and to the canal officials, and enable them to get quickly from one side to the other of the Isthmus.

When the sea-level canal is made, it has always been contemplated that from Barbacoas the sea-level canal would be laid right on the levee alongside of the canal, close to it, right along what you might call (speaking of canals as they exist in this eastern country) the "towpath."

Senator MORGAN. And through from ocean to ocean?

General DAVIS. Yes. I would not move it down here [indicating]; but from Barbacoas on it would simply be run right along on the edge of the navigated sea-level canal until you got into Culebra, and then it would go right through on that bottom terrace.

Senator MORGAN. Without crossing the canal?

General DAVIS. No, sir; you could not cross it anywhere at all. It would follow right through on the bottom terrace of the Culebra excavation.

Senator MORGAN. That would involve also the reconstruction of the railroad?

General DAVIS. It would involve the laying of the track on a grade already prepared.

Senator MORGAN. That means reconstruction?

General DAVIS. Yes, sir; it would be a new track—the old rails simply shifted over.

Senator HOPKINS. In both instances, then, it would be practically a reconstruction of the road, would it not?

General DAVIS. In one case it would involve a very large amount of grading and in the other the grading would be saved; that is the difference; and the miles would be less on the sea-level idea than on the lock idea.

Senator MORGAN. But in either case it is contemplated that when the canal is finished the railroad will become worthless except as a convenience for the canal?

General DAVIS. Yes—as a "tender," you might say.

Senator MORGAN. And it would cease to be a channel of commercial intercommunication between the oceans?

General DAVIS. Quite so; quite so. It would be similar to the railroad that now traverses the whole Suez Canal from end to end; it has a meter gauge.

Senator MORGAN. Has this subject, within your knowledge, ever been brought to the attention of the Government of Panama—the fact that on the completion of the canal they would lose all advantage of the railroad as a freight transporter, as a business line of intercommunication between Panama and Colon? Has that ever been discussed?

General DAVIS. It would or it would not be lost, depending upon the policy of the United States. If the United States ran trains there, they could charge fares to the people who used it, and they

could charge for carrying packages, small amounts of freight that it might be wished to ship from one merchant to another. It would be very small.

Senator MORGAN. But the canal would supplement the railroad?

General DAVIS. Oh, yes.

Senator MORGAN. For the commercial convenience of Colon and Panama?

General DAVIS. Oh, yes; the canal would be open for any kind of vessels that wished to navigate it, small or large. The Suez Canal is. Even sailboats are now going through Suez, you know—little yachts, and naphtha launches, and all that sort of thing.

Senator MORGAN. My recollection of the Hay-Varilla treaty is that that canal is to be open for the use of the people of Panama or the Government of Panama without any charge for its use.

General DAVIS. I have not its verbiage exactly in my mind, but I think that provision relates to the present custom of giving passes to officials of the Panama Government and employees of the Panama Government.

Senator MORGAN. I doubt not that it did relate to that in the minds of the negotiators of that treaty; but I called attention at the time to the fact that the language was so broad that it put us under the obligation, in my judgment (at least that is my present opinion), of transporting all vessels of every description that might be called national vessels of Panama through the canal, backward and forward, without any charges for lockage or anything else.

General DAVIS. I think that would be the case if they were national vessels and had no commercial character. But if they were engaged in commerce, I think not.

Senator MORGAN. That clears up the situation so far as the railroad matter is concerned, in my mind, at least. I had it confused.

General DAVIS. You spoke about the necessity for double tracking, did you not—that you could not understand the necessity for double tracking?

Senator MORGAN. We have spoken of that heretofore; but the double tracking that is to be put on the railroad is evidently for temporary use.

General DAVIS. Yes; that is it.

Senator MORGAN. For purposes of transporting and hauling for the canal.

General DAVIS. Yes.

Senator MORGAN. And accommodating the commerce that now exists.

General DAVIS. Yes; that is right.

Senator MORGAN. So that in the contemplation of both plans, the sea-level plan and the lake or lock plan, the railroad, at the completion of the canal, is expected to cease to be an important factor in commerce between the oceans?

General DAVIS. I think so; I have no doubt of that. It will be maintained as a trolley line.

Senator MORGAN. So that that sacrifice, if we may call it such, is to be added to the cost of either system of canalization, either by the lock system or the sea-level system?

General DAVIS. Yes, sir.

Senator MORGAN. I do not know of any other general topic on which I wish to ask the General any particular questions. There may be some explanations that he wants to give of his deposition as to matters that may have escaped our attention and his at the time. If so, General, you will please proceed to state them.

General DAVIS. I have made a few notes of matters that have occurred to me in the reading of the testimony of others as bearing upon administration, not as affecting the type of the canal at all, but administration. Some of them have been covered in the examination already had, and others have not, and I do not know that there is any very great importance in any of these that I have made a note of. I will refer to a few.

One subject that was discussed in this committee, and in regard to which several questions were asked of Governor Magoon, was the matter of allotments of pay by employees to their families in the United States.

Senator MORGAN. Yes.

General DAVIS. I have had some personal experience in regard to that matter in the Philippines. Until two or three years ago (I have forgotten the date now) it was customary to allow soldiers—I do not think officers were included—to allot a certain percentage of their pay to their families in the United States. That was continued during my time in the Philippines, although I think it has since been discontinued. It involves considerable clerical and administrative work and some difficulties which do not appear on the surface.

A man who is employed by the United States at a stated salary may be expected to have a credit at the end of every month to the amount of his pay, and that is the presumption when an arrangement is made for an allotment. But a man in the Philippines, 7,000 or 9,000 miles away, deserts or dies or is fined by a court-martial in respect to his pay, so that he has no pay coming to him; then the allotment immediately falls. But as the distance is so great, it is necessary to inform the accounting officers in Washington by cable every time a man's pay status changes in the way of reduction of pay—do you catch the idea?—and that cabling bill in the Philippines in respect to soldiers' allotments was a very large one.

It cost the Government a great deal of money to keep the Paymaster in Washington informed in regard to the many, many, many cases of men whose pay status was entirely changed. The orders of the War Department were such that it was made obligatory upon the commanding general and those who were under his orders to inform the War Department in every case; and if there was any omission, and the information was not sent that the man had died or deserted or been fined by a court, the commanding general or the officer at fault had to pay that money. That has been done time and again.

So that if you establish a system of allotments for the employees at Panama, you must also have a system of checks or reports that will reach Washington before the time comes for the Washington disbursing officer to send out the check to the man's family. And that comes to the question of the cable, which I think is an important matter.

At present there is cable communication with the Isthmus by way of Mexico and Central America, frequently called the "Galveston

Line." The name of it is the Central and South American Cable Company. There also used to be communication with Panama on the Caribbean side by the line of a British company, called the West India and Panama Direct Line; but that went down some months ago, and it has not been brought up since.

Senator MORGAN. What made it go down?

General DAVIS. Oh, I do not know. They are going down all the time, and it did not pay. The whole matter was that it did not pay, because the Central and South American cable had made a very low rate (that is, 25 cents a word) for Government messages—not for private messages, but for Government messages. They made a rate of 25 cents a word, so we have been using that cable since; and there was not enough business so that the British line cared to go to the trouble of raising that cable and splicing it. It went down somewhere south of Jamaica; I have forgotten where.

A proposition has recently been made, and is now pending in Congress, to build a Government line for military and naval purposes, connecting Key West or some point on the coast with Colon. I think that is a very worthy suggestion, a very excellent idea; and it will permit free and constant communication. It is a military instrument of great importance, and in time of war would be of the utmost importance. It will also enable the employees of the United States on the Isthmus to communicate with their families speedily without paying this enormous charge. That is, I think the Government ought to permit its own employees to use such a cable at a nominal rate; and now it is a very expensive one.

That is all I care to say on that subject.

Senator MORGAN. Was not this cable between Jamaica and the coast down there broken at the time of this recent earthquake?

General DAVIS. Oh, no, no; it was a year ago—a year ago.

Senator TALIAFERRO. General, I will state that a favorable report has been authorized on a bill to construct a cable from Key West by way of Guantanamo and Porto Rico, and presumably on to the Isthmus.

General DAVIS. It is a very excellent idea.

Senator TALIAFERRO. While you are on that point of allotments, is there any reason why an employee should not be paid in a Treasury draft on the Isthmus?

General DAVIS. I do not know of any reason in the world.

Senator TALIAFERRO. Do you not think it ought to be done?

General DAVIS. I think so. I said so here the other day, I think.

Senator TALIAFERRO. I understood you to say so.

General DAVIS. Oh, I think so. I think that if a man has saved up some money down there, even though he was paid in currency, and wants to remit that money home, he ought to be able to go to the paymaster and get a check without paying any premium for it.

Senator TALIAFERRO. I agree with you.

General DAVIS. It seems to me it is one of the simplest kinds of accommodation that the Government ought to give its employees.

Senator MORGAN. There is another matter suggested to my mind by your statement there, and that is the apparent necessity of having transactions in regard to the payment of laborers and employees of every kind finally closed at the Isthmus without their being referred here.

General DAVIS. That is the way it is done now. They do not use any allotment system now.

Senator MORGAN. They do not?

General DAVIS. Oh, no; but some gentleman was urging that there ought to be a system of allotments. I am only speaking about allotments to show that there are some difficulties attending their operation.

Senator MORGAN. But the payments now can be made to all classes of employees, and their accounts all settled up at the time that the payment is due without a previous audit?

General DAVIS. Oh, yes; certainly. They are now settled promptly. There is no trouble about that.

Senator TALIAFERRO. General Morgan, the point we were trying to get around was the charge made by the banks on the Isthmus as exchange where an employee wanted to remit part of his money home.

Senator MORGAN. I understand that.

Senator TALIAFERRO. That charge is excessive.

Senator MORGAN. I think that is a very burdensome exaction upon the employee.

General DAVIS. I have been in the Army all my life, and I have been in a good many parts of the world, and there never has been a time when I or anyone under me, or any private soldier who had pay coming to him, could not go to the paymaster and get a check on New York or somewhere to send his money home. There never was a time when that could not be done. We could always do it, and I think the employees on the Isthmus ought to have the same privilege.

Senator TALIAFERRO. The greater the conveniences you afford them the better satisfied they will be?

General DAVIS. Why, certainly; and it does not cost anything to do that. It makes necessary the writing of a few checks; that is all it does.

The feeding of laborers has been referred to here as something that ought to be done by contract. I do not agree with that. I do not believe you will ever get a system of feeding laborers on the Isthmus in any messing plan that will be satisfactory. They are the most cantankerous people in the world. There is no such thing as satisfying the notions of those people about their food. If they are charged an upset price for it, they are never satisfied with it. The only way, it seem sto me, is to pay them their wages and let them feed themselves. I am talking now about the common labor—the negro labor.

Senator MORGAN. Then you would have to have supplies of provisions there?

General DAVIS. Oh, I would have stores, where they could go and buy their provisions; yes.

Senator MORGAN. Then the Panamans would dispute your right to do that, would they not?

General DAVIS. They would not if——

Senator MORGAN. They have done it heretofore.

General DAVIS. But they have kept the commissaries going.

Senator MORGAN. General, was this reservoir at Colon built during your administration there?

General DAVIS. You refer to a recent press report saying something about a failure of water supply?

Senator MORGAN. Yes.

General DAVIS. I am not quite sure that I have all the facts; but my impression is this:

The Panama Railroad has had a water supply for Colon for the last fifty years. It is obtained from the natural drainage of some hills that go by the name of the Monkey Hills. It is about 2 or 2½ miles from the city of Colon. A lake was made there, impounding enough water to furnish the railroad with its requirements, the vessels in the harbor, and the native inhabitants. The increase of population and the consumption of water in Colon since the taking over of the work by the United States has brought about a condition of affairs that indicates inadequacy of water. The engineers are building a new supply (they commenced it before I left), impounding water in a stream 2 or 3 miles farther out. I think about 200 or 300 million gallons are proposed to be impounded, a pump erected, a standpipe also, and a distribution system laid down for Cristobal and for Colon.

I do not think that work has yet been completed; but a provisional supply was procured, as I learned when I was there in September of last year; a temporary dam was built on this same stream, and a provisional supply obtained, which supplemented the Panama Railroad supply from Monkey Hill. I read in the newspapers that this supply has failed; and somebody has sent a sensational dispatch up here to the effect that there is a water famine there, and great trouble and tribulation.

Last year, when I was governor, at the dry season (which is now; this is the dry season there), we had the very same condition of things; and they have had it every year. They have had it there every year for years and years; and the way the situation is met is to economize as well as they can with the water, and then for the Panama Railroad to run water tanks out to Tavernilla and bring in three, four, five, or six carloads of water every day, for which they have cars specially built.

Senator MORGAN. How far out is that?

General DAVIS. Oh, about 20 miles or 25 miles, where they water their engines.

Senator MORGAN. It is above Bohio?

General DAVIS. Oh, yes; it is above Bohio, and they bring in the water. They did last year, and I suppose they are doing it now; and that to which you allude, I think, is nothing but sensation. I do not think that it amounts to anything of any serious importance.

Senator MORGAN. And if there has been a failure of the reservoir there, it is this temporary structure?

General DAVIS. This temporary structure that has gone dry, probably, or nearly so.

Senator MORGAN. Has that reservoir stood during the fifty years that the French had the supply for their railroad?

General DAVIS. Oh, yes. That Monkey Hill reservoir has been in use there all the time, and they have been making use of these tank cars to bring water in from Tavernilla whenever they happened to run short. They run the cars out and fill them up, and then run them alongside of the ship and put a hose into the ship and fill the ship's tank—ships that are going on foreign voyages.

Senator MORGAN. Is it good water?

General DAVIS. Oh, yes; it is very good water, and it is like the water we are using now in Panama. It comes from the head of the Rio Grande.

Senator MORGAN. As a rule, the water in Panama is good when you get it coming out of the hills?

General DAVIS. Oh, yes; it is all right. It contains a little bit of sediment and some little vegetable matter, but nothing that has ever done any harm. Typhoids and dysenteries there are almost unknown. There have been one or two cases of typhoid fever in the Panaman hospitals in a year; that is all. There are very few cases.

The matter of the Zone delimitation, which is covered by the report which the committee has ordered to be printed, will require for the elucidation of that idea the printing of these three maps to which I have alluded, if you care to have it done. I think I ought to describe to you what that Zone delimitation means, so far as Colon is concerned, because it is shown by this map. This [indicating] is Limon Bay; this is Manzanillo Island; this is the line that the Frenchmen proposed for their canal.

Senator MORGAN. For the sea-level canal?

General DAVIS. Yes; or any canal. That is the French plan of canal. The American plans—that is to say, the plans of the Board of Consulting Engineers, the majority and the minority—come in here, like that [indicating].

The CHAIRMAN. It is marked up there, General?

General DAVIS. Yes; it is shown here also. It joins in here at Mindi.

Senator MORGAN. Have you any doubt that under any plan of canal we may adopt, it ought to enter the Bay of Limon, instead of going by Colon?

General DAVIS. Oh, I think this idea here is an absurdity. The French idea of entering this canal is an absurdity. You can get an idea of the curve by following that bend, the way a ship has got to proceed. That curve there has a radius of—I have forgotten what it is—about 1,600 feet; that is, that ship has to make two turns, one here and one there, before she can straighten out and go into the canal. It is utterly out of the question. I think everyone agrees on that.

In regard to this matter of Zone delimitation, it is specified, as you will find in that agreement, of which you have a copy, that the line of delimitation between the Republic of Panama and the United States for the Canal Zone shall follow this general plan:

The Hay-Bunau-Varilla treaty specifies that the city of Colon shall remain in the jurisdiction of Panama and its harbor shall remain in the jurisdiction of Panama. Those conditions are stated. Now, therefore, I negotiated with the Government to find the mode by which we could come to an understanding.

The city of Colon consists of this sort of a strip of houses here. That is all that really is built up into a city. This is a mangrove swamp covered with water at high tide and nearly bare at low tide, the tide being only about 2 feet. It was provided in the agreement that I made with the Government that the line of demarcation should begin at this point—Cristobal Point—that from that point a line should be projected across Limon Bay to its west shore in a due westerly direction—this point being fixed and determined; a monument stands there to Cristobal Colombo. That, then, is a due west

line, and everything lying inside of this line belongs to the Zone. Everything outside of it pertains to the harbor of Colon, except as I will state a little later on.

From that point the line of delimitation follows the shore line at low water until it arrives at the intersection of a certain street in the city which is described in the agreement. It follows the center line of that street for that short distance [indicating] and crosses the Panama Railroad track. It then follows on a line parallel with the Panama Railroad track—

Senator KITTREDGE. On which side of the track?

General DAVIS. On the east side of the track—the city side; the Manzanillo Island side, as I remember—always at 150 meters from the center line of that track, until it reaches the shore of the Fox River here; then following around the shore of the Manzanillo Island back here to the light-house.

Now, what is inclosed is in the city of Colon and not within the jurisdiction of the United States. What is on the south side of that line, including all these railroad tracks and this Cristobal Point and a considerable corner of the city itself, where all the shops and the new wharves are here, is in the Zone.

It also provided in the same agreement that a zone 660 meters wide, from the open sea, passing through this harbor on any line that the canal may ultimately take, even the part that passes through the harbor of Colon, shall be under the exclusive jurisdiction of the United States, so that under this agreement a vessel can enter the Zone and always be entirely within the United States jurisdiction, even though it traverses the harbor of Panama.

I thought that was a very important matter to secure perpetual control over ships entering the canal and not have any dispute about right in regard to that matter, so that is covered by that agreement. So wherever the entrance to the canal is, a zone 2,000 feet wide through the harbor of Colon, Republic of Panama, will be under United States jurisdiction.

The map on the Panama side contains a description of the Zone lines also; but it is rolled up now, and if it is printed you can always consult it.

There was a subject mentioned in the statement of Governor Magoon about a dispute that occurred in the city of Panama, in which the Panama police intervened, and I received a letter from the chairman of the Commission saying that you would probably wish to ask me some questions in regard to that. It was a sort of a riot that occurred in the city of Panama during my time there. Was that the case, Mr. Chairman?

The CHAIRMAN. Yes, sir.

General DAVIS. As bearing upon that, I have here a copy of a letter that I wrote to Mr. Wallace on the 3d of May, 1905, in which there is a description of the incident referred to, and all of the facts concerning it are there stated. I do not know that it is a subject that you care particularly about.

Senator HOPKINS. Let it become a part of his testimony.

The CHAIRMAN. It might become a part of the record unless the General wishes it read.

General DAVIS. I do not care to say anything about it.

(The paper referred to will be found printed at the end of to-day's proceedings.)

General DAVIS. There is one other small matter:

When I went to the Isthmus, under the order of the President of May, 1904, one of the duties imposed upon me was to announce in a public manner the purposes for which the government of the Zone was established. I arrived on the 17th day of May and paid my respects to the President of the Republic, and on the 19th of May I made a publication to the inhabitants of the Canal Zone, which was in print; and this is the document in my hand. It is the first public announcement of the purposes for which the government of the Zone was being established by the United States.

Senator KITTREDGE. I think that might as well be printed in connection with the statement.

(The paper above referred to will also be found at the end of to-day's proceedings.)

General DAVIS. There is one other small matter. It is as to a description of the functions of the officials who are transacting the business of the Government on the Zone in an engineering way, or in any other way that involves the use of property, and as respects the designation of that property. It is the custom now to speak of it as the property of the Isthmian Canal Commission.

The locomotives, the dredges, the steam shovels, and the cars are all marked "I. C. C.," and it is in the common language of the day that that is the property of the Isthmian Canal Commission. It is a custom that grew up from the very beginning. What its origin was I have no idea of, only that it has been confirmed by constant usage.

It seems to me that such a description of that property is inaccurate. If there is any mark on a car or a locomotive or a steam shovel it seems to me it ought to be marked "U. S.," as the property of the United States.

It is not a matter of great importance, but it seemed to me to be quite anomalous, inasmuch as the Commission does not own anything, has no ownership whatever, and as the brand on it indicates ownership, it struck me as more appropriate to speak of a contract being made between the United States as party of the first part and John Smith as party of the second part rather than as between the Isthmian Canal Commission as party of the first part and John Smith as party of the second part. It is only a very small matter.

I have nothing else that I care to refer to.

Senator MORGAN. There was a charter party for the two ships that were bought by the Isthmian Canal Commission between the Canal Commission, representing the United States, and the Panama Railroad Company?

General DAVIS. I have understood so.

Senator MORGAN. Yes. I had copies of that charter party published the other day. That is equivalent to a contract by the United States with itself?

General DAVIS. It seems so to me.

Senator MORGAN. If it should get into a court, it would be, of course, impossible to enforce it. The transactions that have been conducted by the railroad company there, or the railroad directors and their superintendent or general manager, or whatever it is, have

been nominally between the railroad company and the Isthmian Canal Commission. Now, in the direction of the operations of that railroad—in the fixing of freight rates, in the transportation of goods across the Isthmus, and in the connections that are made with the commercial ships that come into either of the bays—is it a fact that the railroad directors and managers have the exclusive control and charge of those matters, or are they regulated and controlled by the Isthmian Canal Commission?

General DAVIS. The board of directors of the Panama Railroad, as I understand, are all nominees of the stockholders—all represented by one individual—the Secretary of War. The board of directors of that railroad therefore must, as a matter of necessity, carry out the policy of its stockholders. In other words, the Secretary of War has the right and the authority to dictate to those directors what policy shall be pursued in the management of the railroad, since every share of stock, as I understand, stands in his name.

It so happens that all the members of the Isthmian Canal Commission are members of that board. They have two duties. One duty is to perform what is assigned to them as members of the Isthmian Canal Commission. The other is to do their duty as directors of the Panama Railroad. I think all the members of the Commission are members of the board of directors—at least I have understood so.

Mr. Shonts, who is the chairman of the Isthmian Canal Commission, is also the president of the board of directors of the Panama Railroad. An executive committee has been formed among those directors. I think it has three members, but I am not quite sure about it; and that executive committee has delegated to it by the board certain functions which enable it (the committee) to dispose rapidly of any questions that may arise.

Senator MORGAN. Who comprise that executive committee?

General DAVIS. I could not tell you offhand, for it never has been of any concern to me. I only know that Mr. Shonts is the chairman of the board of directors and is also chairman of the executive committee, and I think Mr. Drake, the vice-president of the Panama Railroad Company, and who has been for many years, is also a member of that executive committee. Who the other members are I do not know. I presume Mr. Cromwell is a member, although that I do not know of any personal knowledge. But there is an executive committee consisting of either three or five members, I am not sure which, and they meet weekly, I think, as a matter of rule, and may meet oftener. The board of directors only meets monthly; once a month.

Senator MORGAN. This board of directors and this executive committee of the railroad company transact and control all of the business of the railroad company, unless the Secretary of War or the Isthmian Canal Commission undertake to give special directions about some matter?

General DAVIS. I suppose that in the transaction of the business of the board it is like all other boards—that somebody makes a motion, and then that motion is seconded, and it is discussed and voted upon.

Senator MORGAN. The point I was getting at is more particularly this—I perhaps did not indicate it clearly enough: The Isthmian

Canal Commission, as a commission, does not undertake to direct the board of directors of the railroad company?

General DAVIS. No, sir; not as it now exists. Under the orders of the President, which were made in May, 1904—that was a direction that he then gave—that all the members of the Isthmian Canal Commission should be elected on the board of directors of the Panama Railroad, and that the policy of the railroad should conform to the policy of the United States. But as I understand, under the modified orders of the President, issued since I left the Commission or about the time I left it, about which I have no personal knowledge, that has been changed. That is, that method of procedure has been changed, although I am not quite sure about that; I do not want to assert that as a fact.

Senator MORGAN. What method, do you understand, has been substituted for it?

General DAVIS. Simply that the Secretary of War, as the only stockholder—that is, the United States as the only stockholder, the Secretary of War as its trustee—indicates to the board of directors of the Panama Railroad the policy that he wishes pursued.

Senator MORGAN. And that takes it out of the reach of the Commission?

General DAVIS. Not out of the reach of the Commission, because every member of the Commission is on the board.

Senator MORGAN. I understand that; but it takes it out of the reach of the Commission as a commission?

General DAVIS. I should think so; yes, sir; I should think so.

Senator MORGAN. And transfers that power of general control and direction to the Secretary of War?

General DAVIS. I do not know that it transfers it; it inherently lies in him.

Senator MORGAN. It leaves it in him, then?

General DAVIS. Yes, sir.

Senator HOPKINS. That is simply a conclusion of yours, is it not, General? All you know about it is that the members of the Commission are directors?

General DAVIS. I only know that by public report.

Senator HOPKINS. Yes.

General DAVIS. I do not know that officially.

Senator HOPKINS. And as to whether they are subservient entirely to the Secretary on every question that comes up on the road, or whether they have independent opinions is a matter you do not know of?

General DAVIS. No, sir. I presume that he trusts those men as wise men, and he wants their judgment, and relies upon them to act wisely.

Senator MORGAN. But you do know that as a commission, as an Isthmian Canal Commission, a body called the Commission does not undertake by any resolution or otherwise to control the board of directors of the Panama Railroad.

General DAVIS. I know that by common report. I have no other knowledge.

Senator MORGAN. You were familiar with the records while you stayed there?

General DAVIS. When I was on the Isthmus I never attended a board meeting of the Panama Railroad directorate.

Senator MORGAN. Although you were one of the directors?

General DAVIS. Although I was one of the directors; but their meetings were in New York, and I was in the Tropics.

Senator MORGAN. But while you were governor there and a member of the Commission, was any order passed by the Commission to the board of directors of the railroad company that they should do any particular thing, or do thus and so?

General DAVIS. No, no; no, sir.

Senator MORGAN. That is, no control was attempted to be exercised by the Isthmian Canal Commission over the board of directors of the Panama Railroad?

General DAVIS. No, sir; I think not.

Senator MORGAN. Or over its superintendent or general manager?

General DAVIS. No, sir. Mr. Wallace was elected or appointed superintendent of the Panama Railroad during my time. He did not wish to serve in that capacity, but—

Senator MORGAN. But the two establishments, in all their transactions and in their accounting and everything of that sort, are entirely separate?

General DAVIS. Entirely separate and distinct; yes, sir; although now, I think, their accounts are audited by the auditor of the Isthmian Canal Commission.

Senator MORGAN. They come under the Canal Commission?

General DAVIS. Yes, sir.

Senator MORGAN. But there is a separate audit for their accounts?

General DAVIS. I think they have an auditor of their own in New York; but of that I am not sure.

Senator MORGAN. Yes; but the accounts in their origin and in their payment of demands and liabilities and whatever takes place, including purchases for the railroad, are all conducted through that corporation?

General DAVIS. I am afraid you are getting beyond my knowledge. I have an impression—I have heard it said—that the purchasing agent of the Isthmian Canal Commission is also purchasing agent for the Panama Railroad. I think one of your witnesses here stated that. I think I have read it here.

Senator MORGAN. I have a different impression. I thought they had a purchasing agent for the Panama Railroad there who sometimes acted for the Commission.

General DAVIS. I think I have read it that way, although I do not know; I am not quite sure.

Senator MORGAN. The coal supply, for instance, that goes into the Isthmus over the railroad and is conveyed by its steamers, is a separate account between the Canal Commission and the railroad company, the railroad company furnishing the coal at a certain price to the Commission?

General DAVIS. Yes, sir.

Senator MORGAN. That applies to pretty much all the coal that has even been used there?

General DAVIS. I think to all, except one cargo, or something like that.

Senator MORGAN. That only illustrates the separation and independence of action of those two bodies.

General DAVIS. Yes. I think the corporation is, in a legal sense, or is intended to be, entirely separate from the Commission.

Senator MORGAN. I believe that this is the day, is it not, for the election of a new board of directors?

General DAVIS. I only know that it is early in April. I am not quite certain about that.

Senator MORGAN. I think it takes place to-day in New York.

General DAVIS. I know it is early in April.

Senator MORGAN. I think Mr. Taft has gone there now for the purpose of electing a new board of directors of the Panama Railroad Company. Of course you have no idea who will be chosen or who are the candidates?

General DAVIS. No; I have no idea at all. I presume the old board will be reelected, although I have no knowledge about that.

Senator MORGAN. I have very grave apprehensions that they will not be, if I may state it in that way.

You mentioned, General, the opinion that it would be preferable for certain reasons (and very important reasons, too, I acknowledge), if we entered upon the contract system of building this canal, to put the entire canal under the charge of one company or establishment or contractor.

General DAVIS. I thought so, sir. I am certain that if this canal was to be built by private capital that is the course they would pursue.

Senator MORGAN. Yes; and that a subdivision of the contracts might lead to conflict?

General DAVIS. I think it would; I think it would.

Senator MORGAN. And particularly in the use of the railroad?

General DAVIS. Yes, sir; I think that is a thing that is vital to it—like the Siamese twins, you can not cut them apart.

Senator MORGAN. It would seem to be a very difficult proposition to leave the railroad in the hands of one company or contractor amongst many.

General DAVIS. Oh, yes; it would be very difficult. I do not think that the idea of turning it over to a contractor would result in any friction or difficulty.

Senator MORGAN. To one contractor?

General DAVIS. To one contractor.

Senator MORGAN. But it would be very likely to do it in case several contractors were interested in the transportation to be furnished by the road?

General DAVIS. Yes.

Senator MORGAN. That would be very likely to lead to conflict?

General DAVIS. Yes; I think it would, unless the control of it lay in the hands of the chief of the whole contract business, the one that had the responsibility of the building of the whole canal. Of course that would be a corporation. It would not be any one man; it would be a syndicate of capitalists.

Senator MORGAN. The question is an important one in connection with the matter of laying out the contract if we conclude to farm out the work, and I was interested in trying to understand about it as well as I could. It would be possible for the Government to retain

the separate and exclusive control of all transportation by the railroad and all of its branches and spurs, and to keep an account with the different contractors of the use that they might make of the road in the transportation of material, for instance, and supplies, or whatever else they had to transport over it. That would be possible?

General DAVIS. Oh, of course it is possible, yes; but the fewer employees the Government has on its pay roll on the Isthmus the better, I think.

Senator MORGAN. In the case of doing the work by contract, the employees there would comprise chiefly, I suppose, a board of engineers for direction?

General DAVIS. That is all; and inspectors.

Senator MORGAN. And a corps of engineers for inspection?

General DAVIS. Yes, sir.

Senator MORGAN. And reports, and all that?

General DAVIS. Yes.

Senator MORGAN. And, then, of course, an office of audit?

General DAVIS. The auditor of the Government here in Washington ought to be sufficient.

Senator MORGAN. And a paymaster's office?

General DAVIS. Well, yes; there would be a local disbursing officer down there, but he would not have very much money to disburse there.

Senator MORGAN. He would only have to pay the employees of the Government?

General DAVIS. That is all. The contract payments would all be made here by the Treasury Department in Washington.

Senator MORGAN. And in a case of that kind we could get rid of all questions of supplying finances?

General DAVIS. Oh, yes; we would not have anything to do with finance at all.

Senator MORGAN. But it would be very important, I should think, in the event that we let out the contract to one contractor or to many, that the United States should, by positive enactment, establish a fiscal system down there.

General DAVIS. I think there ought to be something definite about what the circulating medium shall be.

Senator MORGAN. It ought to be under the control of the Government of the United States?

General DAVIS. Well, yes; I should think so.

Senator MORGAN. And not a partnership with Panama in any respect?

General DAVIS. No; I do not see any need of it. I do not see any need of having but one direction.

Senator MORGAN. Do you think that it is safe, in the construction and control of that canal work, at least up to the time of its completion, that there should be any joint interest between the Government of Panama and the United States in that Canal Zone?

General DAVIS. I do not think there should be any joint responsibility. I do not think there should be any intervention or any power of intervention. As the United States possesses all the powers that a sovereign could exercise, to the entire exclusion of those powers by the Republic of Panama, I see no basis for any partnership; but I think it is highly important that they should be good neighbors.

Senator MORGAN. And there should be a good understanding between them?

General DAVIS. That there should be harmony and pleasant relations.

Senator MORGAN. Mutual assistance?

General DAVIS. Yes, sir; this business of chasing criminals—extradition—is beset with difficulties. When I was governor of the Zone all that I did, and all that the head of the Government of the Republic did in regard to extradition, was simply to turn over the criminals, one to the other, and say nothing about it. We did not have any protocols or agreements or treaties or anything. They said: "Here is a fellow that has escaped over into the Zone, and we want him; can't we get him? He is charged with having committed robbery, or something;" and if the chief of police could pick him up we turned him over to them; and they did just the same for us.

It was entirely a matter of perfectly voluntary work. Each assisted the other. There was a good deal of cattle stealing from outside of the Zone, and they would try to run the cattle into the Zone, have them slaughtered, and have the meat sold there. I always assisted the Panama authorities in catching those thieves if we could; and did everything I could to simplify it, and they responded. It is quite important that we should be on good terms with the Panama authorities, and it is easy to be so. There is no difficulty about securing such an entente cordiale.

Senator TALIAFERRO. Are there many cattle on the Isthmus?

General DAVIS. No; very few; you might say almost none; but there are a good many in the Republic outside.

Senator KITTREDGE. I think Senator Taliaferro is speaking of the Isthmus.

General DAVIS. Oh, in the Isthmus—in the Republic—I have not the basis of getting accurate information about it, but I have heard people say that in the Republic of Panama out towards Chiriqui and in that direction there are 200,000 or 300,000 head of cattle. I have heard the number stated at 200,000 or 300,000. They are brought into the Zone and slaughtered there continually.

I think Senator Kittredge has seen them. They are nice, sleek, smooth, well-conditioned animals, small in size, of light color and thin hair. I have eaten their meat, and it is very good. It is not abundant, but it is wholesome. Mules and horses are few and scarce and expensive. The market for horses is South America, principally Chile. Some of the mules that we are using there now in hauling, drayage, and cartage are mules that were raised in Chile, and they are very nice animals.

Senator MORGAN. I will not ask the General any further questions, although the field opened before me is a very inviting one; but I think we have perhaps gone far enough.

General Davis was thereupon excused, with the thanks of the committee; and after an executive session the committee adjourned until to-morrow, Tuesday, April 3, 1906, at 10.30 o'clock a. m.

By order of the committee, the following papers are printed as an appendix to the testimony of General Davis:

REPORT BY GEN. GEORGE W. DAVIS, GOVERNOR OF THE CANAL ZONE.

CUSTOMS, PORTS, AND REVENUES.

The Republic of Panama, by the canal convention signed on November 18, 1904, granted to the United States in perpetuity all the rights, powers, and authority within the Canal Zone which that country would possess and exercise if it were the sovereign of the territory, and the Republic, in effect, reiterated or emphasized the grant by renouncing the exercise of sovereign rights, power, or authority—in other words, she deprived herself of the power to exercise any sovereign function or attribute in the Canal Zone.

The United States thus came into possession of all the power that a sovereign could exercise, and on the 17th of June, 1904, the Government of the Republic of Panama ordered her officials to desist from exercising any governmental function. The Congress of the United States had previously authorized the President "to take possession of and occupy" the territory granted to the United States for canal purposes on the Isthmus, and to vest the government of said Zone and the manner of its exercise in such person or persons as he might direct.

There is in the act of Congress conferring this authority a specification or definition of the powers of government authorized to be so vested. They were "all the military, civil, and judicial powers, as well as the power to make all rules and regulations necessary for the government of the Canal Zone."

One of the most important powers of the Government within any territory subject to it is the power to impose taxes; without the power of raising a revenue by some form of taxation no government could exist. The power of taxation is a necessary attribute of government, and the Isthmian Canal Commission and the chief executive of the Zone would be helpless in their efforts to carry on a government unless they possessed the powers of requiring the people to contribute to the support of the same, or unless the local government should be supported from outside revenues.

Within the territory over which the United States possesses the power of a sovereign was situated the harbor wherein all the very considerable trade of the Isthmus coming and going via the Pacific Ocean found ingress and egress. At a cost of considerably more than \$2,000,000 the Panama Railroad constructed terminal facilities for convenient and quick handling of that trade, the vessels bearing it finding access to these terminals via an artificial channel, which is a part of the Panama Canal, over 2½ miles long, which was made at a cost of probably \$2,000,000 more. The United States is the owner of 98.4 per cent of the railroad capital stock or shares and the sole owner of the dredged channel leading to the terminal, a channel which is being maintained at a continuing heavy expense. The Government of the Republic in effect said to the United States, "This place, La Boca, and that entrance thereto is a part of the Canal Zone which I have ceded to you."

That the government of the Zone should take steps to establish for the territory to be governed a fiscal system was self-evident, and on several occasions the minister of foreign affairs of the Republic had mentioned that when the time came to determine measures for raising a Zone revenue he hoped the fiscal dispositions of the two countries could be so harmonized that the income of the Republic from the tax on goods imported from abroad might not be depleted, and this, he said, he thought might be accomplished by making the Zone tax on certain articles of luxury equal to those imposed in the Republic and so equalize selling values in both countries, with the result that there would be no motive for smuggling. On at least two occasions the President of the Republic spoke to members of the Canal Commission on the same general lines.

The special articles that yielded the largest revenues to the Republic were beverages and preparations containing alcohol, manufactured tobacco, and opium, the last two being farmed monopolies. It was stated by officials of the Republic that if the United States would concede the point as respected the three commodities above named the Republic would greatly reduce its present tax of 15 per cent ad valorem on all other articles then taxed, and the Junta stated, in a memorandum handed to the first American minister to Panama, that there were many in the country who would be willing to go so far as to abolish altogether the ad valorem tax on all goods save the three named.

On the 6th of July, 1904, the National Assembly enacted a law (No. 65) that conferred upon the President the power to "abate in a convenient manner those duties which, if still levied in accordance with the existing laws, will be prejudicial to commerce and to the people because said laws are very different from those which the Government of the United States will establish in the Canal Zone."

On the 5th of July was enacted law No. 88, of which section 23 provides: "The executive is authorized to reduce the slaughterhouse duty on cattle killed in the districts of Panama, Colon, and Bocas del Toro when the fiscal system, to be introduced in the Zone ceded to the United States, in his opinion requires it."

These official expressions of the executive and legislative branches of the Government of the Republic indicated that there would be no difficulty in harmonizing the fiscal systems of the Zone and the Republic of Panama, provided the United States were willing to admit that alcohol beverages, perfumery, cigars, cigarettes, and opium were not "necessary and convenient" in the construction of the canal, and not "necessary and convenient for the officers, employees, workmen, and laborers in the service and employ of the United States, and for their families."

On the 13th of June the governor sent the following telegram to the chairman of the Commission:

"Officials of Republic anxious specially liquors, tobacco coming into Zone pay same tariff as Republic levies, thus preventing smuggling, protect revenues. I hope Zone tariff may be so arranged."

The answer, on June 14th, was:

"Panama tariff continues until otherwise ordered."

The minister of foreign affairs was immediately informed of the purport of the question and answer.

As before stated, the delimitation agreement was signed on June 16, and the following day a telegram was sent to the chairman of the Commission in Washington, requesting legislation by the Commission or by the President, as follows:

"1. Governor authorized to appoint collector of all revenues and subordinates, and fix salaries.

"2. Collection districts of Zone to be named Ancon, west half; Cristobal, east half.

"3. Free or dutiable goods coming by sea or rail, except in transit across Zone, to be entered Ancon or Cristobal, otherwise forfeited: *Provided*, Governor may regulate subject Commission ratification, entering otherwise than by sea or rail.

"4. Governor authorized to make reciprocal or other arrangements with Republic to safeguard revenues.

"5. Products of Republic, except spirits, enter Zone free if Republic reciprocates.

"6. Governor shall apply Colombian customs administration laws when practicable.

"7. Tariff on canal, railroad, machinery, boats, materials, supplies, Dingley rates, except coming from States; then free. Other goods from everywhere Panama Republic tariff.

"8. Governor authorized to place on free list or reduce rates on articles dutiable Panama tariff, subject ratification Commission.

"If above granted I would make extensive free list on necessities, reduce rates on many other articles, not including tobacco and spirits. President Amador has full power from his legislature to adapt Panama rates to Zone rates, and ready to do so. Present Panama rates uniform, about 15 per cent ad valorem, except spirits, tobacco, and a few others, which are high."

On the morning of the 26th of June the press dispatches published in Panama contained the statement that the President had, by executive order, announced as a law for the Zone that the Dingley tariff rates would apply to all importations from foreign countries into the Zone, and that goods from the United States would enter the Zone free.

On July 1 the governor publicly announced that vessels arriving at the ports of Ancon and Cristobal would be entered and cleared by the Zone collector of customs. Same notification stated that the treasurer of the Zone had been appointed collector of customs at both ports, and that rates of customs tariff, tonnage, light-house dues, etc., would be those required to be imposed or collected under the laws of Panama. In the announcement the port of Ancon was thus described: "Which embraces the landing place at La Boca, the canal channel entrance thereto, and the steamship anchorage adjacent to the islands of Culebra, Naos, Perico, and Flamenco, all these waters and islands being within the jurisdiction of the United States."

The press item above referred to, announcing that the Dingley tariff rates had been made applicable to the territory on the Isthmus for the government of which the United States was responsible caused some excitement among the merchants of the Zone, who thought they saw in the application of such a measure the establishment within the canal territory of commercial establishments stocked with goods for sale at prices far below those at which the Panama

merchants could sell them, the reason being obvious, to wit, merchandise from the United States would come to the Zone free of any impost or tariff, while the same goods imported by merchants of Panama or Colon would be taxed, as provided by the local laws. They thought they would not only lose the expected profits to flow from the vast trade of the United States employees and canal followers, but they also feared the loss of the legitimate trade of their own cities of Colon and Panama, for they argued that the inhabitants of the city of Panama, by crossing the street or going a few hundred yards to a neighboring store within the Zone where free-trade goods were sold, could supply their wants, and the most rigid surveillance by the customs authorities could not prevent the smuggling that would inevitably result.

As soon as the governor received the full text of the order of the President of June 24, which was received on July 5, an exact copy of the document was transmitted to the minister of foreign affairs of the Republic. In the letter of transmittal the Government of the Republic was informed that a collector of customs had been appointed for the ports of Ancon and Cristobal. The following is a quotation from the same letter:

"Your excellency will observe certain provisions therein which look to the arrangement of details concerning matters affecting your excellency's Government and that of the Canal Zone. I shall have the honor at an early day of asking a conference regarding these matters."

On July 5 Mr. Arias, the minister of foreign affairs, acknowledged receipt of the referred-to letter and its inclosure. Respecting the letter he said: "I will study it with special attention and duly submit same to His Excellency the President of the Republic for his information."

The details referred to by the governor, concerning which a conference was suggested as desirable, consisted of sections 8 and 9 of the President's order, as follows:

"SEC. 8. The governor of the Canal Zone is authorized to enter and carry out an agreement with the President of the Republic of Panama for cooperation between the customs service of the Canal Zone and that of the Republic of Panama to protect the customs revenues of both Governments and to prevent frauds and smuggling.

"SEC. 9. The governor of the Canal Zone is hereby authorized to enter upon negotiations and make a tentative agreement with the President of the Republic of Panama respecting reciprocal trade relations between the territory and inhabitants of the Canal Zone and appurtenant territory and the Republic of Panama; also a readjustment of customs duties and tariff regulations, so as to secure uniformity of rates and privileges and avoid the disadvantages resulting from different schedules, duties, and administrative measures in limited territory subject to the same conditions and not separated by natural obstacles. The governor shall report as to such negotiations and proposed agreement to the chairman of the Isthmian Canal Commission for submission and consideration by the Commission and such action by competent authority as may be necessary to render said agreement effective in the Canal Zone. This order will be proclaimed and enforced in the Canal Zone at Panama."

On July 5 the governor, by proclamation, announced, as he was required to do by the Secretary of War, the issuance by the President of the Executive order of June 24, and he published the exact text of the same in the local papers, except sections 8 and 9. These were omitted because it was thought a possible embarrassment to the authorities of the Republic might result from the publication at that time of these sections, so important to the Republic as it was believed—i. e., the two sections that contained instructions looking to the arrangement by the authorities of the Republic and of the Zone of a tentative agreement respecting reciprocal trade, also to "secure a readjustment of customs duties and tariff regulations, so as to secure uniformity of rates and privileges and avoid the disadvantages resulting from different schedules, duties, and administrative measures in limited territory subject to the same conditions and not separated by natural obstacles." Receipt of this letter was promptly acknowledged by Mr. Arias and without comment as to its subject-matter.

On the 2d of July the Chilean steamer *Loa*, then within the jurisdiction of the authorities of the port of Panama, was cleared from said port and the clearance was presented to the collector of customs at the port of Ancon, where the steamer actually was lying, and the same day the Zone authorities of said port cleared her for her homeward journey. By the 6th of July three other vessels, two American and one foreign, were also cleared for their destination, each having previously presented clearance papers from the port authorities of the Republic.

It does not appear that any objection was made to this proceeding by the Government of the Republic until the 5th of July, when the minister of foreign affairs politely requested to be furnished with the facts in the case of clearance of the S. S. *Loa*. These were supplied on the same day.

On July 9 the captain of the port of Panama, an officer of the Republic, stated in writing that he knew of no port of the Republic named Ancon, and that if it existed it would be a port of the Isthmus. On the same day the governor received a long letter from the Panama minister of foreign relations, acknowledging receipt of the governor's response respecting the clearance from Ancon of the steamship *Loa*, and appealing to the undersigned to suspend the orders for the clearance of vessels from La Boca wharf without the knowledge of the authorities of the port and Panama laws on the subject.

To this letter a reply at considerable length was sent on the 11th of July. Respecting the request for suspension of these orders for La Boca clearances, the undersigned remarked:

"I find myself without the power to give the orders respecting clearances of vessels from La Boca which your excellency asks me to issue. * * * On the 24th of June the President of the United States gave me instructions to publicly proclaim the law respecting the establishment of ports at Ancon and Cristobal and the application of customs rules and regulations to the Canal Zone. * * * I am sorry to say, as I have already intimated, that this is impossible, because this is an order based entirely on instructions from my superiors."

In respect to the provisions of the President's above-referred-to order of June 24, authorizing the governor to discuss and arrange a provisional reciprocal agreement, the undersigned remarked:

"You have not failed to observe the provisions looking to reciprocity provided for in the President's order, a feature of this law which I am sure you will concede has been prompted by the most kindly feeling toward the Republic, and all that now remains in that connection is that we should draw up the agreement upon the tentative basis that is referred to by the President of the United States."

Copies of same were forwarded to the chairman of the Canal Commission in Washington on the 12th of July (pp. —).

The reason for the remarkable change in attitude of the Government of the Republic, manifested toward the government of the Zone as respects the fiscal policy of the latter, has never been stated or ever referred to by the officers of that Government, but that a very radical change occurred soon after the publication of the President's order establishing customs ports on the Zone, the Dingley tariff rates, and free trade with the United States is very easily demonstrated.

Before July 5 not an expression of wish or suggestion of the Panama authorities had been brought to the notice of the authorities of the Zone government indicating any other desire than an earnest one that the fiscal policy of the United States respecting the Zone might be harmonized with the existing economical and fiscal system of the Republic. Great was the astonishment of the governor of the Zone to learn that the Government of Panama objected to the exercise over arriving and departing vessels within the waters and jurisdiction of the Zone of the supervision and control that is always exacted by nations exercising the powers of sovereignty within the subject territory.

Before the 11th of July the views of the authorities of Panama, as expressed in personal and official utterances, were in complete harmony with the United States policy inaugurated by the President's legislative enactments, made in pursuance of the law of Congress, and also in harmony with the administrative and executive dispositions of the government of the Canal Zone that have been observed up to the present.

Attention is invited to the following facts:

First. The Junta de Gobierno prepared a document dated February 1, 1904, with title, "Personal Memorandum to the Hon. W. J. Buchanan, minister from the United States."

A copy of that document was handed to the chairman of the Isthmian Canal Commission in Panama about April 10, 1904, by Mr. Ricardo Arias. The following is a quotation from the memorandum:

"The impuesto comercial (25 per cent Colombian silver duty on the gold valuation of merchandise, as per sworn invoices) is one of the chief sources of fiscal income. We can not continue running the Government without it or its equivalent in some other revenue. Therefore until we have found some other means to replace it we can not part with it. This is the fiscal view of the case. Those who have given more thought to this subject suggested that the tax should be lowered to a point where it would not interfere with the object in view, say, 5 per cent gold, and the difference should be raised on the impost on liquors, tobacco, opium, and perfumery, which should previously, to give it larger yield, be declared as not necessary or convenient for the officials and men in the employ of the United States on the canal."

Second. In official interviews the President and the minister of foreign affairs of the Republic more than once stated to the undersigned in effect the same ideas that are expressed in the memorandum handed to Minister Buchanan, and on one occasion Mr. Ricardo Arias stated that they would go even further and reduce the ordinary impuesto comercial below 5 per cent gold, or even abolish it altogether, so that the tax on liquors and tobacco was made recoup the loss.

Third. On the day when the delimitation agreement was signed the governor, not being then aware of the existence of law No. 65, quoted above in part, asked the President of the Republic if, now that the Assembly had adjourned, it would be possible for his Government to enter into an arrangement that would result in harmonizing the fiscal system of the two governments. The President replied that the Assembly had, he thought, conferred upon him the requisite power to effect this object, and the next day, the 17th of June, the following letter was received by the governor of the Zone from the President of the Republic, viz:

"DEAR SIR: I have the pleasure to inform you that I am fully authorized by law recently enacted by the National Assembly to reduce or increase our duties and taxes accordingly with the rates which your Government shall establish at the Canal Zone.

"Yours, truly,

"M. AMADOR GUERRERO."

Fourth. The laws Nos. 65 and 88, enacted on June 6 and July 5, 1904, vest the President of the Republic with authority "to abate in a convenient manner those duties which, if still levied in accordance with the existing laws, will be prejudicial to commerce and to the public, because said laws are very different from those which the Government of the United States will establish in the Canal Zone," and also "to reduce the slaughterhouse duty on cattle killed in the districts of Panama, Colon, and Bocas del Toro, when the fiscal system to be introduced in the Zone ceded to the United States, in his opinion, requires it."

Fifth. On the 17th of June the governor of the Zone received the following communication from the minister of foreign affairs, Republic of Panama:

"GENERAL: I have the honor to inform you that all the officials and public employees in the Canal Zone have been instructed, through their respective superiors, that since yesterday their functions as members of the Government of the Republic of Panama have terminated, because of the fact that the districts on the line of the railroad over which they have jurisdiction have been separated from the national territory by virtue of the agreement signed by you and the undersigned on the day mentioned.

"With sentiments of distinguished consideration,

"Your obedient servant,

"TOMAS ARIAS."

Sixth. In a memorandum draft of the proposed delimitation agreement, which draft was prepared by the minister of foreign affairs of the Republic, and handed to the governor of the Canal Zone on the 28th of May, 1904, the treaty between the United States

and the Republic of Panama is spoken of as the treaty of cession, and the Zone is mentioned as the territory ceded.

The preamble to the delimitation agreement signed on the 16th day of June, 1904, between the government of the Canal Zone and that of the Republic of Panama, contains the following:

"In order that said work of construction of said interoceanic canal may be systematically prosecuted, and in order that a government for the Canal Zone created by the terms and provisions of said article 11 of said convention may be successfully organized and carried forward, it is necessary that the extent and boundaries of the territory ceded to the Government of the United States by the Government of the Republic of Panama under the terms and provisions of said convention shall be provisionally determined and agreed upon."

Furthermore, in the first section of the agreement proper, which was signed by the minister of foreign affairs of the Republic of Panama, is the following:

"SEC. 1. The limits of the Canal Zone, including lands under water and islands ceded, but not including the cities and harbors of Colon and Panama, delivery of which lands, water, and islands has been made by Panama, and possession of which has been taken by the United States, are indicated and shown on the attached map, * * * and said indicated boundary or line of division between the territory ceded by the Republic of Panama to the United States for canal purposes," etc.

And in a later section is the following:

"*Provided, however,* That the entrance channel of the Panama Canal through the harbor of Colon to its southern boundary of the width of 330 metres on either side of the middle line or axis of said entrance channel whenever said channel may now or hereafter cross the same is hereby declared to be a part of the Canal Zone under the exclusive jurisdiction of the United States."

Seventh. Also the following appears in Mr. Arias's draft of the delimitation agreement respecting citizenship (translation): "In consequence no change has been made for the present in the nationality of the inhabitants of the ceded territory. As in the arrangements to be made, time will have to be given to the above-mentioned inhabitants in which to choose their nationality, Panaman citizens in the meanwhile can ask the Government of Panama the permission which is specified in paragraph 2 of article 7 of the constitution, in order to allow them to accept employment from the Government of the United States so that they will not lose their citizenship."

Paragraph 2 of article 7 of the Panama constitution is as follows:

"Panaman citizenship may be lost * * * (2) by accepting employment or honors of another government without permission from the President of the Republic * * *."

Eighth. In June Etienne Latour was arrested charged with assault and battery committed at Emperador on the 5th of same month. The fiscal of the court before which the case would have been heard reported that since Emperador was situated in the Canal Zone the Panaman court lacked jurisdiction, and therefore the papers should be transmitted to the secretary of justice.

That official returned the papers on June 30 to the local court with the remark. "This office abstains from deciding what should be done, as it considers that you are the one that should do so, as the transfer

of the sovereignty in the district of the railroad line has been officially communicated." Thereupon, the papers in the case were sent by the Panaman judge through the secretary of justice to the minister of foreign relations, who sent them in due time to the governor of the Canal Zone. In his letter of transmittal the secretary of justice stated the reason "in order that he (the secretary of government) may transmit them to the North American authority competent to take cognizance of the case in question."

Ninth. It has been already related that on the 22d of June the governor furnished the minister of foreign affairs with a copy of the circular announcement of the Postmaster-General of the United States, dated June 2, 1904, announcing that the Canal Zone had been brought within the postal system of the United States, also that the governor asked of the minister a temporary supply of Panaman stamps until such time as the United States stamps could arrive. The solicited favor was granted and the stamps promptly supplied, the overprinting having been attended to by the minister's Government, as requested by the governor of the Zone. In due time the United States stamps were received. Later the minister was asked for a statement of account so that the bill could be paid; it was furnished and the incident was closed.

There was not only no objection offered against the installation of the United States postal system, but the Government of Panama materially assisted the United States authorities in installing it. Nor has there been, up to the present time, any objection raised to the course that was pursued, save that the United States minister to Panama has furnished a copy of an official memorandum dated the 27th of July, transmitted to him by letter from the minister of foreign affairs of Panama, in which memorandum is the assertion that "excluding from the Zone the postal tariff and postage stamps of Panama is, to say the least, improper."

The foregoing citations and quotations from official documents show that in many instances the minister of foreign relations has officially used the word ceded and cession in referring to the grant by Panama of the Canal Zone, and twice in the agreement in question the word ceded is used when referring to the said grant, which has in recent communications been spoken of as a lease or a franchise.

The secretary of government and minister of foreign relations for the Republic of Panama, and also the attorney-general of the Republic, found no difficulty on June 17 in conceding to the United States exclusive jurisdiction over a channel or right of way through the harbor adjacent to Colon—that is to say, a strip of said harbor of undetermined length, which can not be less than a half mile and having the specified width of 660 meters; but these gentlemen now claim for their Government that the United States has nowhere in the Zone more than a partial dominion, sovereignty, or jurisdiction.

The same minister of foreign affairs on the 17th day of June, 1904, instructed the officials who had been administering the local government of the Zone that they would cease their functions, because the districts they had been governing "had been separated from the national territory."

On February 1 the committee of the provisional government, or the "Junta de Gobierno" as it is usually called, requested the minister of the United States to Panama to communicate to his Government

the hope that the fiscal system of the United States in the Zone might be harmonized with that of the Republic, and that liquors and tobaccos might be declared as not necessary or convenient for the officers and laborers employed in work on the canal, so furnishing a clear recognition of the right and power of the United States to make any desired disposition for taxation in the Canal Zone, a request that was repeated on more than one occasion to the governor and other members of the Canal Commission by the President of the Republic and his minister of foreign affairs.

It should not be forgotten that Mr. Arias, now secretary of foreign affairs, was a member of the provisional "junta" that was responsible for the special memorandum for the American Minister Buchanan.

Again it is seen that President Amador personally addressed the governor in writing, notifying him of the fact that the national assembly had given him power to increase or decrease import duties and taxes in accordance with these the United States might levy in the Zone.

Finally the minister of justice of the Republic refers an unfinished judicial proceeding to the governor of the Zone because of the transfer of sovereignty of the territory where a crime had been committed, that was the subject of the judicial proceeding.

The correspondence that ensued between the minister of foreign relations of Panama and the governor of the Zone was voluminous, and much of it would be irrelevant in a report of this nature. A few of the more important communications are here noted and will be found in the appendix.

On July 16 the captain of the port of Panama informed the agent of one of the steamship companies plying to Panama that any of his vessels failing to comply with the port formalities exacted by the Government of the Republic would do so under penalty of a fine and the liability of being excluded from the waters of the Republic; also, that no vessel dispatched to the port of Panama could make use of the waters of the said port without complying with the formalities referred to and asking why the agency of the company changed the destination of a consignment of merchandise by delivering it at Ancon when it is consigned to Panama.

On August 1 the American minister to Panama furnished the governor with a copy of a protest by the Panama Government against the attitude and acts of the Canal Zone authorities in the matter of opening the ports of Ancon and Cristobal, and later in August a copy of a memorandum from the minister of foreign relations, dated July 27, was received from the American minister.

Since the minister of foreign affairs of the Republic, in his letter of protest of July 28, on behalf of his Government, expressed the belief that the opening of the ports of Ancon and Cristobal was not in obedience to orders from the American Government, but was due rather to the erroneous interpretation of the treaty on the part of the authorities of the Canal Zone, and as this amounted to a charge that the governor of the Canal Zone had acted without orders from his own Government, he felt called upon to reply to the unwarranted assertion by his letter of August 2, and the reply of Mr. Arias of August 27 will also be found in Appendix F.

On July 15 the governor received instructions from the chairman of the Canal Commission, desiring him to confer with the authorities of the Republic to see if some plan for the use of the Panaman anchorage could not be reached, also directing that La Boca should be considered as within the Zone; also to endeavor to make a temporary arrangement of the port question. The interview was had, but the minister of foreign affairs said that since the governor was required to still continue to enter and clear vessels at La Boca, it was not thought best to enter into a discussion of that question or adopt a provisional agreement. To the governor's question as to the willingness of the minister to discuss the question of reciprocal trade, he replied that the Republic denied that the United States had any right to take any measures respecting international trade, and that there was no occasion to have any understanding on that subject.

Early in September the American minister to Panama furnished the governor of the Zone with a copy of a dispatch dated August 11, from the Panaman minister to the United States to the Secretary of State of the United States in Washington, in which the position of Panama on the questions pending between the two countries respecting ports, customs, taxation, and posts are very fully stated.

If this document is read in connection with the memorandum of Minister Arias, dated July 27, the position of the Government should be very clear. There is one discrepancy between the two officers of the same Government—Mr. Obdalia admits that the United States may maintain a postal system in the Zone for purely local purposes, but may not presume to send and receive mail to and from foreign countries, while Mr. Arias claims that to have displaced the Panaman postal system and postage stamps from the Zone "was very improper, to say the least."

The points of objection raised by these two officials are assembled for convenient reference in the following synopsis of the statements and arguments:

POINTS OF MR. ARIAS'S PROTEST JULY 27.

(P. 2.) Panama, when approving the canal treaty of the 18th of November, 1903, observed with pleasure that the United States had waived in favor of the Republic of Panama that which was neither needed by the United States nor by the canal enterprise, but which, for the Republic, constitutes the most effective guaranty of its existence—the fiscal and economical sovereignty within and without the Zone.

(P. 3.) It is the opinion of the undersigned that the citizens of Panama and Colon and the ports adjacent thereto are separate and distinct from the Canal Zone, virtually leaving the Zone without jurisdictional ports.

(P. 4.) The Republic claims the acknowledgment of its economical and fiscal sovereignty within the Canal Zone, not alone because it considers the Government as having been vested with that right, according to the treaty, but for the more potent reason that its future and its existence depends upon it. Panama * * * will steadfastly claim all that has been by it clearly reserved and will yield nothing that it has not expressly surrendered.

(P. 4.) The sovereign right of levying taxes within the Zone does not appear to have been surrendered to the United States by any of the stipulations of the treaty. That right is implicitly acknowledged by Articles X and XIII of the treaty, wherein are specified the goods that can not be subject to be taxed. It follows that other effects are liable to taxation. In other words, national taxes and contributions take effect in the Zone in so far as not expressly excepted by said Articles X and XIII.

(P. 4.) Excluding from the Zone the postal tariff and postage stamps of Panama is, to say the least, improper.

POINTS IN MR. OBALDIA'S DISPATCH OF AUGUST 11.

(P. 1.) The agreement concerning the isthmian canal does not imply cession of territory and absolute transfer of sovereignty.

(P. 1.) The legal relation * * * would be that which exists between a lessor and a lessee.

(P. 5.) Authority is conferred on the United States of establishing in the Zone a restricted judicial power.

(P. 5.) The treaty stipulates that the United States shall possess the land and exercise in it rights, powers, and authority over the Zone conceded to it by the Republic of Panama as if it were sovereign in the territory, but this expression implicitly conveys the idea that it is not sovereign.

(Pp. 5 and 6.) From the stipulation contained in Articles X and XIII it is declared that Panama preserves the right to levy contributions on property of persons not comprised in the list contained in these articles.

(P. 7.) If there should exist any discrepancy between the terms of the third article and the above reasoning it is obvious that the subsequent provisions should prevail, because they are more specific and more clear, and because they are more in conformity than that one with the remaining clauses of the treaty and with the external policy of the United States with regard to Central and South American nations.

(P. 9.) The idea of the contracting parties is obscure in everything relating to these delicate questions of dominion and sovereignty, but the conclusion is, however, justified that the two countries exercise conjointly the sovereignty over the Canal Zone. In the cases expressly specified in the treaty the use of such right belongs to the United States by virtue of delegation from the Republic of Panama, but in respect of all other matters not mentioned the rights of the Republic remain unaltered and complete.

(P. 7.) Such a situation necessitates the conclusion of an explanatory convention, and this Panama proposes.

(P. 8.) The establishment of a port and its opening to commerce is a right inherent in the sovereign. The United States does not enjoy absolute sovereignty, and such authority does not reside in the United States.

(P. 9.) The port of Panama includes the whole coast that surrounds the city, the neighboring islands, and all the waters that wash the port of the Canal Zone. This power, like that relative to the ports, is vested in the sovereign of the territory, and the United

States does not possess this absolute sovereignty, which would carry the right of establishing its own fiscal system.

(P. 11.) It has never entered the mind of either party [to the treaty] that the United States should turn the Canal Zone into a source of revenue by enforcing high customs tariffs, even against the Republic of Panama, which is the lord of the territory, and still holds over it rights that it has not relinquished.

(P. 11.) If any customs tariffs can be established at the ports of Panama and Colon—that is to say, the entrances of the canal—on the importation of articles of trade destined for use or consumption in the Zone, it is for the Republic of Panama, and not the United States, to do so. * * * Any importations made, not by the United States, but by persons that are not in the employ of the canal, may be taxed by the Republic of Panama.

(P. 11.) The object of the convention is not the cession by one party, or the acquisition by the other, of areas of territory or of fiscal or other public revenues.

(P. 11.) My Government holds that the United States may conduct a domestic mail service within the Zone, but can not forward to foreign countries, as this right belongs to the Republic of Panama.

(P. 6.) The Republic still retains part of its judicial powers of the Canal Zone.

From these declarations it is easily seen that the Panama Government does not willingly accept, or finds difficulty in adapting herself to, the condition of affairs that has come about through her own act—a condition of incapacity—"to the exercise by the Republic of Panama of any such sovereign rights, power, or authority," a renunciation which includes all the rights, power, and authority within the Zone mentioned and described in article 11 of the canal treaty, "which the United States would possess and exercise if it were the sovereign of the territory."

Mr. Arias declares that the Republic has not parted with her fiscal and economic sovereignty within the Zone, and will steadfastly claim the right to exercise the same, not only because the said rights have been reserved to the Republic, but because "its future and its existence depend upon it."

The United States Government, by its legislative measures and by the dispositions made in pursuance with the statutes and by its orders to the governor of the Canal Zone, has apparently proceeded on the basis that all the rights, powers, and privileges which the sovereign of the territory could possess and exercise have been ceded to the United States by Panama, but Mr. Arias considers that the future and the very existence of the Republic depend upon the abandonment by the United States of the claim that such delegation of power actually resulted from the canal treaty.

The proofs have already been cited in this presentation, showing that the Government of Panama was formerly of the same opinion as that entertained by the United States respecting this transaction, and so expressed itself through its constituted authorities on many occasions from the time the treaty was negotiated down to the early part of July of the present year.

This inference is deducible from the treaty itself, from the opinion expressed by the special envoy extraordinary who for Panama assisted in the making of the treaty and signed it, as to the meaning intended

to be expressed by that instrument in defining "the harbors adjacent" to Colon and Panama, and from the official utterances of its President, its minister of foreign relations, its Junta de Gobierno, its National Assembly, and minister of justice.

That the condition of affairs expected to result from the cession would be analogous to that which exists in many other states and provinces, where similar acts have produced similar results, is notably shown by the following:

In 1841 the Sultan of Turkey granted to the Khedive of Egypt all the rights, powers, and privileges that he could have exercised if he was sovereign in Egypt, except that he was obligated to pay to the Sultan an annual tribute of \$3,750,000, he could not have an army of more than 18,000, he could not build or own any war vessels of the type of battle ship, he could not float a foreign loan without the Sultan's permission, and he could not make treaties with foreign powers that were in contravention with Turkish political treaties. Yet the nominal sovereignty remained in the Sultan, while the Khedive was practically an absolute monarch in Egypt.

In 1878 the Sultan of Turkey granted to the Emperor of Austria the entire control of all governmental functions in the Turkish provinces of Bosnia and Herzegovina, and all the rights, powers, and privileges which a sovereign could exercise, yet the nominal sovereignty of these two provinces still remained in Turkey.

In 1878 the Sultan of Turkey granted to Great Britain all the rights, powers, and privileges that a sovereign could exercise in and over the island of Cyprus.

In 1898 the Emperor of China granted to Great Britain, by lease for so long as Russia should remain in possession of the Port Arthur peninsula, the town and district of Weihaiwei. Under this lease Great Britain exercises all the rights, powers, and privileges that a sovereign could exercise in the said town and district of Weihaiwei.

In 1898 China granted to Russia for the period of twenty-five years, with right of extension, all rights, powers, and privileges that a sovereign could exercise, of and to, the Port Arthur promontory and adjacent territory.

In 1898 China granted to Germany, by lease for ninety-nine years, all the rights, powers, and privileges which a sovereign could exercise, in and to the port of Kia-Chau and adjacent territory.

There are probably other instances of like delegation of power equivalent to sovereignty, yet, in every one of the cases cited, the actual nominal sovereignty is still in the Sultan of Turkey in the one case and in the Emperor of China in the other, just as the nominal sovereignty of the Canal Zone is still in the Republic of Panama.

A door is open into which Panama may enter when so minded, and so secure the adoption of fiscal and economical measures that will protect her treasury, secure to her very comfortable fiscal and economical conditions, if not sovereignty, and when she no longer repels the tender she may secure an arrangement for establishing and controlling and harmonizing the fiscal systems of the Republic and the Zone, an object or result that seems to have been earnestly desired by the Government of the Republic a few weeks ago.

For the realization of its herculean task, the United States needs all the treaty gives it, i. e., all the rights, powers, and privileges that sovereignty could confer within this narrow strip of land where the

interoceanic canal must be, and no part of such authority can be properly and safely relinquished. Ocean steamers come and go at Colon, and the United States has no wish or thought to interfere with them. After a few years the United States will have improved the harbor at the entrance to the canal, already available for small steamers, and where the trade and commercial movement should be as untrammelled as it is now at Colon.

The Zone authorities have not interfered with and will not molest the ocean steamers that use the old harbor of Panama, but the United States should not tolerate any interference with similar vessels that make use of the harbor owned absolutely as property of the United States, and which is within United States jurisdiction by agreement with Panama. Can the United States permit Panama customs officials to dictate her customs and port measures within the harbor of Ancon?

After the necessities of the United States for land for canal purposes are better known it will probably be found that considerable areas of agricultural land, now in the Zone, can be ceded to Panama, for it is understood that the United States does not wish to control an acre of territory that is not essential for canal purposes.

According to the opinion of the Panama minister of foreign affairs, the postal system of the Republic was wrongly displaced. The Government of the United States can hardly assent to this proposition, nor that letters going and coming across the ocean must be passed through Panama post-offices. For example, are the employees of the canal from the United States to be required to affix to their letters to friends and relatives at home the Panama 10-cent silver stamp instead of the 2-cent United States stamp?

When an agreement is reached respecting the control of interstate trade (Zone-Republic) on the principles of reciprocity of advantage or favor, goods will freely pass in bond through the ports of the Republic to the Zone and through the ports of the Zone to the Republic. The customs tariff or commercial taxes in the Zone should be such that all importations of liquor, tobacco, etc., will come in through the Republic's ports exclusively, while the Republic should so lower her "impuesto comercial" that the products of the United States, other than liquor and tobacco, may come into the Republic and the Zone and enter into use or be consumed, paying a very small tax, if any at all.

That the people of Panama may consider that the trade and business of the Zone, so confidently counted upon, is essential to their prosperity and necessary to the realization of their dreams of exploitation, is well illustrated by a provision of the gambling concession referred to below, and by the claim presented and arguments in support of it by the grantee for the existing lottery concession.

The gambling concession (a copy of which has been published in the Official Gazette of the Government) was granted on January 4, 1902, by the governor of the department of Panama to Mr. Charles E. Pratt, an American. The grantor was the governor, Alban, a Colombian general then exercising the functions of the chief executive of the department (now Republic) of Panama, who a few months later was killed in a revolution. Adolfo Aleman, a Panamanian, was his secretary of finance.

The amount agreed to be paid annually for three years for the exclusive privilege of operating gambling establishments throughout the country or of subletting the privilege was \$51,000. The last part of section 111 of the concession is as follows:

"In case the Government of the United States of America, or any respectable company or enterprise of a formal and permanent character, undertakes the interoceanic canal works, the employment of 4,000 laborers and employees on the said works being considered as giving to the companies such a character, the grantee undertakes to pay to the government the sum of \$75,000 over and above the sum stipulated to be paid for the gambling privilege, or he shall cede to the government, at its option, three-fourths of the amount of net benefits received from these establishments in the Province of Panama, to take effect on the day on which the canal works are recommenced."

The Government promised the timely support of the police for the preservation of order, to facilitate which the games were required to be carried on in places of easy access to the police and Government agents, but not to be visible from the street. The grantee renounced his right to claim, by judicial process, the recovery of gambling debts by minors, soldiers, and public employees. He also agreed not to have recourse to diplomatic assistance in differences or disputes regarding the interpretation of or compliance with the conditions of the contract. The grantee to be held to pay the full amount agreed, no matter what may be the condition as to peace or disorder. While the then existing state of war continued the gambling shops were to be closed at 10 p. m.

This contract is still in force, and the stipulated payments continue to be made to and are received by the treasurer-general of the Republic of Panama. The amount reported as received into the central treasury since August 1 is \$19,125 silver.

On the 24th of October, 1883, there was granted to a company to be organized by the grantee the exclusive privilege of conducting lottery drawings in what is now the Republic of Panama for the period of twenty-five years, to date from January 1, 1884. The number of drawings to be held each month or each year is not specified. The number of tickets for each drawing was required to be one or ten or one hundred thousand, as the management decided, and it was required that at least 64 per cent of the value of the tickets which comprise the drawing be paid out as prizes. Four per cent of the value of all the tickets in each drawing was to be paid into the treasury, and 3 per cent of the value of the tickets was also to be paid over to the general treasury to be shared by the asylums and hospitals of the country. All the officials who took part in the making of the contract were Panamanians. The grant was ratified at Bogota by the officials of the Government of the Republic of Colombia.

On June 3, 1901, the period of the grant was extended for ten years in consideration of a cash payment of \$100,000 (silver), and the date of expiry of the present monopoly is December 31, 1918.

Recently the grantee under the original contract, who is now the manager of the lottery company, made a claim against the Republic in the sum of \$3,750,000 (silver) for indemnification, because the United States authorities in the Zone had enacted laws prohibiting

the holding of lotteries and the sale of lottery tickets. In his appeal to the President of the Republic appears the following statement:

"So that your excellency may appreciate the magnitude of the damage caused, I make bare the following: Now, there are only a few laborers working on the line of the canal, and the enterprise pays to the Government the percentage corresponding to it, amounting to \$83,000 annually, and gains a net profit of \$160,000 annually, it being easy to deduct that when the number of laborers is increased and the work on the canal is in full blast. The net profit of the enterprise should be from \$800,000 to \$1,000,000, and the proportion pertaining to the Government from \$400,000 to \$500,000. Now that the drawings are reduced to fifty-two (52) annually, the proportion of the Government will be \$41,000, and the net profit of the enterprise \$80,000. I am in a position to prove that during the years 1887 and 1888 the enterprise earned more than \$600,000."

Recently the Isthmian Canal Commission enacted a law making the holding of a lottery or the sale of lottery tickets in the Canal Zone a crime, punishable with fine or imprisonment or both, and a similar law forbidding, and providing a similar punishment for gambling.

Several arrests have been made for violation of these laws, and the trials will soon take place before the circuit court, which has recently been created. In one of the cases habeas corpus proceedings were had, but the judge denied the petition and held the accused for trial. In the hearing of the petition the plea was set up that the United States is not sovereign in the Zone, and therefore not competent to interfere with the holder of a franchise which was regularly granted by the sovereign power, of which power the Republic of Panama is the regular and legal successor.

THE PRESENT SITUATION.

In response to an invitation of the American minister to Panama, the undersigned prepared, the last of July, a scheme for a *modus vivendi*, which was submitted by Mr. Barrett to Mr. Arias, but was not accepted formally, although the entrance and clearance of vessels is now being managed practically in conformity with the principles stated in this draft.

Notwithstanding the numerous assertions to the contrary, the authorities of the United States have not to the present moment collected any customs duties whatever in the Zone. The fear that goods imported by Panama merchants would be held for duties passing from the Zone port of Ancon to the territory of the Republic have not been realized, and the goods are handled now just as before the signing of the treaty. Goods imported into the Zone from the cities of Panama and Colon that have been already taxed as if for consumption in the Republic are not impeded in any way by the tax collectors of the Zone. The functions of the Panama Railroad as an international transit route are performed as before. Goods destined for Pacific ports or coming thence bound for Atlantic ports, beyond the Isthmus in both cases, are moving as usual, but the railroad people decline to issue bills of lading—for merchandise bought in the United States, for example—through to destination in the Zone, and as a necessary result the tax collectors of the Republic at Colon levy on these goods when landed at the Panama port above named. This

is entirely wrong, and representations have been made to the railroad company, which, it is hoped, will result in a change, so that the goods coming to Empire, for example, from New York, will be passed in bond through the port of debarkation in Colon the same as is done at La Boca with respect to goods destined for the Panaman port of Panama.

There have not as yet been any importations of merchandise for private—i. e., nonofficial—use and consumption at Christobal or Ancon, but no doubt there soon will be some commercial business of this sort. The population of the Zone is so small and their wants so few that the business will continue to be insignificant for some time to come.

Mention has already been made of the fact that Panama imposes an export tax of 1 cent per bunch on all bananas shipped from Colon, and this is applied rigorously to a production of the Canal Zone. The fruit is forwarded on through bills of lading from points of production in the Zone to New York, yet the authorities of the Republic impose the tax. This matter has just been made the subject of an official complaint by a producer and shipper and it will be brought to the attention of the Panama Government in the hope that the tax will be abated as soon as the facts are known.

The mail service of the Zone is satisfactory and very few complaints are heard. The home rate of 2 cents per ounce prevails within the Zone and between the Isthmus and the United States, but if a letter from the United States with such a stamp chances to reach a Panaman post-office, and quite a number do, the letter is stamped with short-paid postage at double the unpaid rate; while, on the other hand, any letters, evidently intended for the inhabitants of the cities of Panama and Colon, chance to be sent erroneously to the Zone post-office, all such letters, without any charge for short postage, are sent to the proper Panaman post-office. So far the Zone postal service has been self-sustaining, but no payment is made for ocean steamship or railway mail conveyance. The penalty envelope in use in the United States is also used by public officials of the United States in the Zone.

A considerable revenue has been derived by the national Government of the Republic from the use of stamped paper. The law requiring the use of such paper in many kinds of legal documents was in force in the Zone, and it became necessary for the authorities to provide the paper or the stamps. Resort was had to the Government of Panama, as in the case of the postage stamps, and the minister of foreign relations very kindly supplied the paper desired, the same being overprinted (surcharged) with the words "Canal Zone" so as to make the paper useless elsewhere.

In the administration of the territory within the United States' control on the Isthmus certain conditions are met with that are entirely different to any hitherto encountered in any possession which the United States has been called upon to govern, and these unusual conditions increase to a larger degree the difficulties or work of administration. In the Philippines, in Guam, in Cuba, and in Porto Rico there was no sovereign power claiming to exercise joint control with the United States in respect to any function of government.

The conditions heré respecting administration that constantly confront the governor are such as to multiply many times the burden

of labor and responsibility beyond what they should be for a population hundreds or even thousands of times greater than that occupying the Zone, and the reason is that this canal strip, with its bagatelle of natives and a negro population, occupies to-day a position of unique importance politically and industrially. Within the strip a government is being organized for the 10,000 natives and foreigners now here and for the expected accession thereto. This would be a very easy matter if it were not for the fact that the Government outside that narrow zone of land is one between which and our own there are and will be for a long time many differences, some friction, and much correspondence.

The people who live on the Isthmus, and many more adventurers to arrive, expect and intend to exploit the canal finances and workings, all in their own selfish interest. The owners of the gambling and lottery privileges, and this includes a very large part of the leading Panamans, are greatly displeased to find that the Americans are proceeding to spoil their plans, and we are accordingly disliked or hated.

The Government of the Republic claims that she continues to be the real, true sovereign in the Zone, and that the United States is a vicarious sovereign simply, and that only, as respects certain excavation and sanitation work involved in digging the canal.

This state of affairs has already produced friction, and more will probably result. It adds greatly to the burden of work thrown on the chief executive and his staff, for he has to deal with many perplexing and important questions for which there are no precedents and which require much careful thought and study.

But for the conflicting laws and customs of the two Governments the Canal Zone would be as easy to administer as Gaum, but under the present conditions it is not so.

If the position taken by the Government of Panama is to prevail, then there will be no place here for an official called a governor. The term commissioner or agent would be more appropriate if the United States has no other status than that of a lessee or concessionaire.

The above respecting customs tariff, ports, and revenues is submitted in the hope that it may have some value as a side light or perspective.

Attention is invited to the report of the collector of revenues herewith, wherein are given some statistics respecting the entries and clearances at the port of Ancon for the quarter ending September 30, 1904, Appendix I.

Respectfully submitted.

ANCON, CANAL ZONE, *October 1, 1904.*

[Translation.]

Letter from Señor Don J. Domingo de Obaldia to Hon. John Hay, Secretary of State.

LEGATION OF PANAMA,
Washington, August 11, 1904.

EXCELLENCY: I have received instructions from my Government to take before your excellency's illustrious Government steps looking toward the obtaining of a satisfactory settlement of the difficulties

which have unexpectedly arisen between the authorities of the Republic and the governor of the Canal Zone owing to the interpretation given by the latter to some of the clauses of the agreement concerning the isthmian canal concluded between the two countries on November 18 last.

There are several points on which a difference of opinion has arisen, and it is necessary, first of all, to make a general estimate of the treaty as a whole, in order to apply in each case the interpretation which is most in conformity with the harmony among its various clauses, most in concord with previous declarations made by your excellency's illustrious Government, and most suited for the maintenance of the cordiality which has existed between the two countries since my country became a part of the family of nations.

As an indispensable antecedent of the Hay-Varilla convention must be regarded the Hay-Herran treaty, concluded January 22, 1903, approved by the United States Senate, and rejected by the Republic of Colombia.

Both treaties were concluded with the same principal object, viz, to facilitate for the United States the construction of a ship canal between the Atlantic and Pacific oceans. In neither case was it the intention of the high contracting parties to conclude a treaty for the cession of territory or for the absolute renunciation of sovereignty on the part of either of them. Your excellency's illustrious Government, in order to make clear before the world, and especially before the nations of Central and South America, the real object of the negotiations which resulted in the conclusion of the Hay-Herran treaty, made in the latter the formal and categorical declaration contained in Article IV, which reads as follows:

"The rights and privileges conceded to the United States by the terms of this convention shall not affect the sovereignty of the Republic of Colombia over the territory within whose limits such rights and privileges are to be exercised. The Government of the United States fully recognizes this sovereignty and disclaims any intention to minimize it in any manner or to increase its own territory at the expense of Colombia or of any of the sister republics of Central and South America; it desires, on the contrary, to strengthen the power of the republics on this continent and to promote, develop, and preserve their prosperity and independence."

This solemn declaration, made in a public document of the most elevated character, as is a treaty among nations, involves, in the opinion of my Government, the perpetual promise of a generous and noble line of conduct on the part of the United States, a promise which has not been destroyed by the fact that the Hay-Herran treaty no longer exists, for the declaration in which it is embodied expresses the purpose of following a frank and honest policy, accepted and confirmed afterwards by the Senate of the United States, which is the highest legislative body in this country. This declaration, as your excellency knows, had for its object the removal of the fear existing in the American republics of a more or less remote absorption by this nation, which is so powerful in every respect; and it had a decisive influence on the Government of my country in causing it to approve unreservedly and without modification the Varilla-Hay convention.

As my Government considers that this solemn and spontaneous declaration has a perpetual and definitive character, it trusts that your

excellency's illustrious Government will interpret the agreement concerning the isthmian canal in the manner most harmonious and consistent therewith, and in this conviction I will now lay before your excellency some other more specific observations.

I.

The agreement concerning the isthmian canal does not imply cession of territory and absolute transfer of sovereignty.

The simple reading of Article IV of the Hay-Herran treaty, which is an antecedent of inappreciable value, inasmuch as therein is expressed the intention of the United States in negotiating with Colombia, is sufficient to establish the truth of the proposition which I have just set forth; but there are, besides, powerful reasons to sustain it, deduced from the Varilla-Hay treaty, which is identical in most of its clauses with the Hay-Herran treaty.

In effect, as I have had the honor to observe to your excellency before in this same note, both treaties relate to the concession to the United States of the use, occupation, and control of certain lands and waters in order to facilitate the construction, preservation, exploitation, sanitation, and protection of a maritime canal between the Atlantic and the Pacific. This is the principal and dominant idea in both documents. In neither of them was there used any expression implying transfer of the absolute domain over the territory, much less the transfer of sovereignty.

This concession might have been made by Colombia before November 3, 1903, and by the Republic of Panama after that date to any legal company or association without its being possible, by reason of the grant, that a right should be claimed to the dominion over the strip of land in which the work was to be executed, or much less the exercise of absolute sovereignty.

The legal relation in this supposed case, just as in the present case, would be that which exists between a lessor and a lessee. Owing solely to the fact that the lessee is another republic, there may be confusion respecting the character and the essence of the contractual relations created by the agreement.

If the intention of the high contracting parties in either of the two cases to which I have just referred had been the absolute cession of the dominion and sovereignty of the territory, both treaties might have been reduced to two articles, one specifying the thing and the other expressing the price of sale; but both parties understanding that this was not the case, and satisfied that the intention was otherwise, they found themselves obliged to fix, as far as possible, the relations between the lessor and the lessee, taking into account the peculiar circumstances of that highly important negotiation and the necessities that might arise owing to the very nature of the work which was about to be undertaken.

Thus, for example, inasmuch as the enterprise was to be one of indisputable utility, in which were to be invested considerable sums from the Federal Treasury of the United States, and in connection with which daily controversies might arise with regard to the work, would it have been wise on the part of Colombia first and Panama afterwards to demand absolute jurisdiction over all these questions

and to claim the exclusive power to settle and decide them when one of the parties was a foreign nation?

It was natural that some provision should be made in this regard, and hence certainly arose the idea of conferring on the United States the authority of establishing a restricted judicial power in this Zone.

In the Varilla-Hay treaty this concession was broader than in the Hay-Herran treaty, but still it was not absolute.

Article III of the Varilla-Hay treaty, the only one treating of the rights of sovereignty, stipulates that the United States should (shall?) possess and exercise the rights, power, and authority which the Republic of Panama conceded it over the Zone, as if it were sovereign in the territory; but this expression implicitly conveys the idea that it is not sovereign, and although in the final part of the article is added "to the entire exclusion of the exercise by the Republic of Panama of such sovereign rights, power, and authority," these words, which are in obvious contradiction to those which precede, must be interpreted in accordance with other subsequent articles of the agreement which demonstrate the real intention of the contracting parties.

In Article VI, for instance, the property rights of private persons in the Zone are treated of, and it was agreed that all damages caused by reason of the concessions made to the United States or of the construction, preservation, exploitation, sanitation, and protection of the canal and its auxiliary works should be investigated, appraised, and decided upon by a mixed commission appointed by the two countries and whose decisions should be final. If the United States possessed the sovereignty over the Zone to the absolute exclusion of the Republic of Panama, this clause would be inexplicable.

By Article X the Republic of Panama obligates itself not to levy or to allow to be levied contributions or taxes of any kind, either national, departmental, or municipal on the canal itself or on the railroad and auxiliary works or on its tugs and vessels, nor on the employees, workmen, and other persons in the service of the canal, of the railroad, and of the auxiliary works; but from this stipulation it is deduced that it does preserve the right to levy these contributions on property and persons not comprised in the exception.

According to Article XII the Republic of Panama is obliged to permit the immigration and free access to the lands and workshops of the canal and of its auxiliary works of all employees and workmen of whatever nationality who may arrive, either already contracted for or in search of work, and it obligates itself to consider them as exempt from military service.

In conformity with Article XIII the United States may import into the Zone and the auxiliary lands of the canal free of duty on the part of the Republic of Panama, all kinds of ships, dredges, machines, etc., necessary and suitable for the construction, exploitation, sanitation, and protection of the canal, as well as everything necessary for the laborers, employees, and their families. The same observation should be made regarding this article as I made with regard to Article X.

Finally it was agreed between the parties, according to Article XIII, that the United States should enjoy the right to employ its own land and naval forces for the protection of the railroad, the canal,

and its auxiliary works, and that it might construct fortifications for this purpose.

As is deduced from these stipulations contained in clauses subsequent to Article III, and all in clear, precise, peremptory terms, the Republic of Panama still preserves part of the judicial power of the Canal Zone. She has pledged herself to permit the entry into the Canal Zone of certain immigrants, which implies that, if the clause did not exist, she could prevent it. She has obligated herself not to levy contributions on the canal or its auxiliary works, etc., which demonstrates that, if it were not for the special renunciation contained in the article, she would preserve the sovereign right to levy them. She has agreed to admit the introduction into the Zone, free of import duties, of all articles necessary for the canal, the auxiliary works, and the employees thereof, an obligation which can only be contracted by one having the authority and right to levy such taxes. Finally, she has authorized the United States to use its land and naval forces in case they should be necessary for the protection of the canal, which necessarily implies that, if this clause did not exist, the United States would not have such authority.

None of the stipulations which I have enumerated would have any *raison d'être* if the Republic of Panama had renounced the dominion over the Zone and her rights of sovereignty absolutely. But her intention never was to renounce these rights, nor was it the purpose of the United States to acquire them, for the latter, quite to the contrary, has declared that it does not wish to increase its territory at the expense of Colombia or of any other republic of Central or South America, and there is nothing to justify the most remote suspicion that this declaration is not sincere.

In public treaties the existence of useless or contradictory clauses can not be admitted. Those which appear useless must be interpreted in such a manner as to produce some effect, and those which are contradictory should be interpreted by taking into account the tenor of the last ones, for it is to be supposed, as Woolsey says, that these express the last idea or thought of the parties.

If there should exist any discrepancy between the clauses to which I have just called your excellency's attention and the third one of the Bunau-Varilla-Hay treaty it is obvious that the last ones should prevail, because they are more specific and more clear and because they are more in conformity than that one with the remaining clauses of the treaty and with the external policy of the United States with regard to the South and Central American nations.

My Government considers that the idea of the contracting parties is obscure in everything relating to these delicate questions of dominion and sovereignty; but after a careful study the conclusion may be arrived at that the two countries exercise conjointly the sovereignty over the territory of the Canal Zone, and that in the cases expressly specified in the Bunau-Varilla-Hay treaty the use of such right belongs to the United States by virtue of delegation from the Republic of Panama; but in all that concerning which the treaty is silent the rights of the Republic of Panama remain unalterable and complete.

Such a situation, which would give rise to constant disputes if it were prolonged, necessitates the conclusion of an explanatory con-

vention to be discussed by the parties in the conciliatory spirit which has hitherto prevailed in the relations of the two countries, and to this the Government of my country is disposed.

Passing on now to the special questions which have been raised, your excellency will please permit me to treat them separately.

II.—*Ports.*

In the Canal Zone, as described in Article II of the Bunau-Varilla-Hay treaty, are not included the cities of Panama and Colon or their adjacent ports; both have been expressly excluded from said Zone, and consequently, even conceding the assumption that the United States possesses the right of sovereignty over the Zone, such right could not be extended to what by the same treaty is considered as excluded from its jurisdiction.

There would remain two things to be considered in regard to this subject:

1. Whether the United States has the authority, according to the Bunau-Varilla-Hay treaty, to make ports of entry of any place comprised within the Zone as if they were its own, and to open them up to the commerce of the world, even to the detriment of the interests of the Republic of Panama.

2. Whether, under the assumption that this authority exists, the United States can extend it so far as to declare as ports of its own and subject to its jurisdiction any or part of any of those which actually exist and belong to the Republic of Panama, even including those excepted by Article II of the treaty.

It must first of all be observed that the establishment of a port and its opening up to the commerce of the world is a right inherent in the sovereign of the territory; and as I have already demonstrated in the first part of this note that the United States does not enjoy absolute sovereignty over the Zone, but only the special rights conceded by the Bunau-Varilla-Hay treaty, it is clear that such authority does not reside in the United States.

Foreseeing, without doubt, the need which the United States might come to have of ports during the period of construction of the canal, and after the latter should be opened to the use of commerce, the Republic of Panama agreed to concede to the United States, as is seen in the final part of Article IX, the right to use the ports and cities of Panama and Colon as places of anchorage, repairs of vessels, unloading, loading, depositing, or transshipping cargoes either in transit or destined for the service of the canal.

The ports of Panama and Colon are, by the nature of the land, the entrances of the canal. It being so, the idea of the other ports for the same use or destination could not occur to the negotiator; and as the United States has under the convention the right to use them, thereby recognizing them as the property of the Republic of Panama, it is clear that it is not in its power to declare them to be ports of its own subject to its exclusive jurisdiction. It is obvious that, in like manner, the United States can not, under the convention, declare that it holds sway over a greater or lesser part of those ports merely because the fiction of a different name, such as Port Ancon or Port Cristobal, may be resorted to.

The port of Panama is one, and includes the whole coast that surrounds the city, the neighboring islands, and all the waters that wash that part of the national territory. Article II of the Varilla-Hay convention in all its amplitude bears on that port, and the place known by the name of La Boca is embraced within its limit. As part of the port of Panama, La Boca remains outside the Canal Zone, but, owing to the same circumstance, the place may be used by the United States for loading, unloading, depositing, and transshipping cargoes by virtue of the right granted it to that effect.

The same conditions obtain at the port of Colon. The place called Cristobal is nothing but a ward of the city; there is nothing there which can ever, by a straining of the words, be considered as a distinct port, and the whole is in consequence under the exclusive jurisdiction of the Republic of Panama; but the United States has the right to use it, as stipulated in the repeatedly mentioned Article IX of the convention.

If the authorities of the Zone had confined themselves to exercising that right, their position would have been unobjectionable, and my Government would have discharged with the greatest alacrity the obligations under which it lies; but things have gone differently. Gen. G. W. Davis has issued an order of an unquestionable legislative character, by which he converts into ports of the Zone the places known as La Boca, in Panama, and Cristobal, in Colon; declares them open to the trade of the world and subject to his exclusive jurisdiction, absolutely setting the Republic of Panama aside, regardless of the clause which excludes from the Zone the cities of Panama and Colon, together with their adjacent ports.

My Government can not accept this situation, which it considers contrary to the spirit and letter of the Varilla-Hay convention, and is convinced that the course followed by the authorities of the Zone has not been in obedience to instructions bearing especially on the point that has been raised by this distressing controversy, but is the outcome of local suggestions.

III.—*Custom-houses.*

General Davis, in his capacity as supreme authority in the Canal Zone, has also ordered the establishment of custom-houses at the places he has erected into ports of entry, and put into operation the tariff of import duties now in force in this Republic.

There is no clause in the Varilla-Hay convention that empowers the United States to establish custom-houses at the ports of Panama and Colon or to collect import duties in any part of the Canal Zone. This power, like that relative to the ports, is vested in the sovereign of the territory, and the United States does not possess that absolute sovereignty which would carry the right of establishing its own fiscal system.

The portion of its sovereign rights that the Republic, on considerations of a high order, has granted to the United States has reference to all that may be necessary or expedient to afford effective protection to the canal in peace and in war to maintain it free and open to the commerce of the world and to prevent its being improperly used by any foreign power. The Republic of Panama has also granted the exercise of its rights for the establishment of a public

administration that would maintain order within the Canal Zone, so that the works should not be interrupted or the service impaired after the completion of the canal; but it has never entered the mind of either party that the United States should turn the Canal Zone into a source of revenue by enforcing high customs tariffs, even against the Republic of Panama, which is the lord of the territory and still holds over it rights that it has not relinquished.

Quite to the contrary, several articles of the Varilla-Hay convention contain a record of the will of the parties in the sense that the Canal Zone should be a territory entirely open and free to commerce, and with this view obligations were assumed by the Republic of Panama which could not otherwise be explained.

Article LX of the convention sanctions the principle that the entrances of the canal and the cities of Panama and Colon (cities and entrances which are identical, as I have hereinabove observed), and in effect that there shall not be imposed at either place custom-house tolls, tonnage, anchorage, light-house, wharf, or other dues upon vessels passing through the canal, except such charges as may be imposed by the United States for the use of the canal and other works, or as may be established by the Republic of Panama upon merchandise destined to be consumed in the rest of the Republic.

If to this stipulation there be added that contained in Article XIII, by virtue of which the Republic of Panama allows the United States to import into the Zone, free of customs and all other duties, all that may be required for the construction, service, operation, sanitation, and protection of the canal and its auxiliary works, it is clear that the United States, before securing the acceptance of this clause, did not consider itself as holding the right of importing into the Zone its own machinery, material, provisions, etc., without paying the regular duties to the Republic of Panama, and such being the case, it is even clearer that it can not put its own tariff into operation, which, after all, results in injury to the Republic of Panama and especially its principal cities.

By interpreting these clauses so as to bring them all into harmony it is possible to reach the conclusion that if any customs tariff can be established at the ports of Panama and Colon—that is to say, the entrance of the canal—on the importation of articles of trade destined for use or consumption in the Zone, it is for the Republic of Panama and not the United States to do so, for the Republic alone has bound itself by Article XIII of the convention to allow the United States to “import at any time into the said Zone and auxiliary works, free of customs duties, imposts, taxes, or other charges, and without any restrictions, any and all vessels, dredges, engines, cars, machinery, tools, explosives, material, supplies, and other articles necessary and convenient in the construction, maintenance, operation, sanitation, and protection of the canal and auxiliary works, and all provisions, medicines, clothing, supplies, and other things necessary and convenient for the officers, employees, workmen, and laborers in the service and employ of the United States and for their families,” so that any importation into the Zone of merchandise or articles not included in the exception clearly and categorically expressed in the article—that is to say, any importation made, not by the United States, but by persons that are not in the employ of the canal—may be taxed by the Republic of Panama.

This is the interpretation that accords best with the general character of the isthmian canal convention, for it must be borne in mind that its object is not the cession by one party or acquisition by the other of areas of territory or of fiscal and other public revenues. The contemplated end is the construction of the canal, and the aim of every stipulation in the agreement is to facilitate, not to hamper, the said construction.

IV.—*Postal service.*

Post-offices have been established in the Canal Zone and make use, for foreign mails, of stamps differing in value from those now in use by the Republic of Panama. As the value of those stamps is less in the Zone and as their sale is subject to no restriction whatever, the public buys its stamps and mails its correspondence at those offices, thus causing a serious loss for the Republic in that national source of revenue.

My Government holds that the United States may conduct a domestic mail service within the Zone, but can not forward mails to foreign countries, as this right belongs to the Republic of Panama.

In addition to the foregoing remarks, in which I have endeavored to present the judicial side of the question by keeping within the clauses of the Varilla-Hay convention, I deem it expedient to lay before the enlightened Government of your excellency other phases of the subject that are entitled to equal consideration.

Even assuming that the Varilla-Hay agreement could be interpreted in the sense of conceding to the United States the right to establish ports, custom-houses, and post-offices in the Canal Zone: even accepting as clearly and finally recognized in favor of the United States the absolute right of control and sovereignty over the territory; if the exercise of such rights should redound to the grave and irreparable injury of the Republic of Panama and result in a condition of commercial and financial ruin that the parties never intended to bring about—for no one wittingly enters into a contract to bring upon himself incalculable and irremediable injury—your excellency's Government and this country, where a deep-seated spirit of justice and a lofty sense of equity prevail, should find occasion for earnest meditation in this matter of enforcing measures, such as those I am now dealing with, which would be attended with such results and deal the blow of death to my country without yielding any advantage to the United States.

I am well aware that sentiment has no part in the negotiations of this character, but even looking at the matter in the light of the most selfish expediency, what interest can the United States have in the financial ruin of the Republic of Panama, in the disappearance of its fiscal resources, which would make its pecuniary position untenable, and in seeing it finally incapacitated for the proper discharge toward the world of the inherent obligations of a free and sovereign nation? Is it not rather to the interest of the United States to foster the development of the Republic of Panama and to contribute to its prosperity and aggrandizement?

If the measures ordered in regard to ports, custom-houses, and mails should continue in force, the principal cities of the Republic would lose the importance they have always had as places of transit,

and all the trade would be diverted from them and concentrated at such places as the United States may select for it in the shape of ports. The revenues derived therefrom by the Republic and those that are indirectly yielded by the traffic would completely vanish. Even now the steamship companies of the Pacific will not clear their ships except for the so-called "Port Ancon," and decline to accept cargoes for the port of Panama; so that, if this condition of things should endure, those cities would soon become deserted places—cut off from all direct commercial contact with the world—that is to say, they would be placed in a worse condition than that which they occupied before the conclusion of the treaty in which they founded their hopes of improvement and progress.

If the tariff set up against the importation of merchandise that does not come down from the United States should be continued in force, the business of commerce that has flourished heretofore would entirely disappear or perhaps reduced to the importation of the necessities of the impoverished population of the interior of the Republic. In effect, American manufactures would come into our markets and there pay the duty to which they are subject; they could not, in consequence, compete with those that are admitted free of duty into the Zone. Manufactures imported by Panama from Europe could not cross into the Zone and be there offered for sale without paying a high duty, and, in consequence, would be subjected to a double tax which would place them in a disadvantageous situation. The home industries would likewise find in the tariff of the Zone an insuperable obstacle, and therefore the Republic of Panama would suffer worse injury from this cause than any other country. Neither the main necessities of life nor the staples of most constant use and consumption produced in the country could cross the dividing line without submitting to considerable surtaxes which, in the end, would be prohibitory.

So heavy a blow to the native commerce and industry would make away with the revenues of the Republic; and inasmuch as the canal treaty has placed it under certain obligations which restrict its financial resources of every description and under certain responsibilities that involve a considerable outlay, the prospect held before my country is one of weakness, poverty, and retrogression, instead of the bright future which the United States intended to achieve for it when it extended to it its generous hand and its loyal and effective support in its hour of trial.

My Government does not believe that your excellency's Government has entertained the purpose of inflicting such huge and irreparable injuries upon the Republic of Panama; quite to the contrary, it is confident that a mere statement of such injuries will suffice to put an end to the situation that has been created, and to establish the bases of a common form of life in which regard shall be had to the interests of both countries—not an impossible, but, on the contrary, a very feasible matter.

But before reaching that final agreement which must embrace many details and can be discussed with your excellency by me on some other occasion, I confine myself for the present to asking that your excellency, in the exercise of the administrative powers conferred upon you, and with the object of putting an end to the delicate situation in which the Republic of Panama is placed, will issue appropriate orders to

the end that the measures ordered by the authorities of the Canal Zone in regard to ports, custom-houses, and post-offices be suspended until such time when an agreement regardful of our common interests shall have been reached.

I give your excellency full assurance that the Government of my country cherishes the most earnest and sincere desire to effect such an arrangement on generous terms that will be satisfactory to the United States.

With sentiments of true esteem and respect, I am,

Your excellency's obedient servant,

J. D. DE OBALDIA.

APPENDIX TO THE CUSTOMS REPORT.

- (A) Translation of law No. 65, June 6, 1904, conferring powers upon the Executive of the Republic of Panama for the enactment of laws regulating commerce, etc.
Translation of law 88, article 23, July 5, 1904, authorizing Executive to reduce slaughterhouse tax.
- (B) To Tomas Arias from General Davis, relative to the clearance of the steamer *Loa* from the port of Ancon on her return voyage to South America, letter July 5.
- (C) From Tomas Arias to General Davis, letter dated July 9, relative to the clearance of the steamer *Loa*, and reviewing the term "ports adjacent to."
To Tomas Arias from General Davis, letter dated July 11, taking up the matter of his letter of July 9, 1904, respecting foreign maritime commerce, in which his excellency observes that the two Governments do not seem to be in accord.
- (D) To Tomas Arias, transmitting copies of correspondence passed between the agent of the Pacific Mail Steamship Company and the Jefe del Resguardo, port of Panama, relative to the jurisdiction over La Boca pier. Letter dated July 19, 1904.
- (E) From Tomas Arias, memorandum reviewing the interpretation of the treaty as pertains to the ports of Panama and Colon.
- (F) To Minister John Barrett, from General Davis, letter dated August 2, 1904, reviewing the letter of protest from the minister for foreign affairs for the Republic of Panama.
- (G) Copies of telegrams:
 - (1) July 16, 1904.—General Davis acknowledges receipt of two cablegrams of the 14th instant, stating "Differences between Panama and America fundamental," etc.
 - (2) Copies of cablegrams from Isthmian Commission, Washington, attached.
- (H) Draft of "modus vivendi," as finally adopted between the Government of the Republic of Panama and the Government of the United States.
Memorandum attached.
- (I) From the collector of customs, Tom. M. Cooke, to General Davis, transmitting statement of transactions had in the customs department for the quarter ending September 30, 1904.
Statement attached.

APPENDIX A.

[Translation.]

Law No. 65, June 6, 1904.

ARTICLE 1. The executive power is authorized to abate, in a convenient manner, those duties which, if still levied in accordance with the existing laws, will be prejudicial to commerce and to the people, because said laws are very different from those which the Government of the United States will establish in the Canal Zone.

ART. 2. The executive power is likewise authorized to celebrate with the Government of the United States a convention relative to the duties which will be levied in the Canal Zone and in the cities of Panama and Colon, in order that they may be identical in one and the other places. The convention will remain in force until such time as, being submitted to the National Assembly, that body should disapprove it.

ART. 3. The executive power is likewise authorized, during the recess of the National Assembly, to submit to the judgment of arbitrators any questions of litigation to which the Republic may be a party, always provided that the transactions shall obtain the favorable vote of the secretary of each Government department and the procurator-general of the nation.

ART. 4. The executive power can celebrate treaties with the Republic of Colombia which will be considered as laws, provided that in these treaties the Republic of Colombia recognizes the sovereignty and independence of the Republic of Panama and that the Republic of Panama will not cede any part of the territory comprising by law the former sovereign State of Panama.

ART. 5. The executive power is authorized to invest in British consols and French rentes, paying 3 per cent interest, in whatever proportion is judged to be prudent, of the funds of the Republic, as provided in article 138 of the constitution; and in the same manner may be invested any other funds which there may be no opportunity to utilize for the public service.

Law No. 88, of July 5, 1904.

* * * * *

ART. 23. The executive is authorized to reduce the slaughterhouse duty on cattle killed in the districts of Panama, Colon, and Bocas del Toro, when the fiscal system to be introduced in the Zone ceded to the United States, in his opinion, requires it.

APPENDIX B.

Ancon, July 5, 1904.

EXCELLENCY: Acknowledging receipt of your excellency's appreciated favor of even date herewith, respecting the departure of the steamer *Loa* from the port of Ancon (La Boca) on her return voyage to South America, I hasten to reply and to inform you that on Saturday last a clearance of this vessel from the port of Panama was presented to the collector of customs for the port of Ancon, which, according to my understanding, brought this vessel within the legal jurisdiction of the United States. The paper in question was presented to the collector of the port of Ancon by the agent of the Chilean Steam Navigation Company, copy of which is inclosed herewith for your information. There was no correspondence with the agent of the company nor any other written communication than the one in question. The collector of customs, in clearing the vessel for her return voyage, acted in accordance with my instructions and, as I understand, strictly in accordance with the rules which should govern in such matters.

A short time ago I sent you a copy of an order of the President of the United States, which established two collection districts for the Canal Zone and authorized the appointment of the customs officials. This antedates the clearance of the *Loa* by nearly a week.

I have the honor to be, excellency, your obedient servant,

GEO. W. DAVIS, Governor.

His Excellency TOMAS ARIAS, Secretary of State.

SECRETARY OF GOVERNMENT AND FOREIGN RELATIONS,
DEPARTMENT OF FOREIGN RELATIONS,
Panama, July 5, 1904.

GENERAL: In its issue of the 2d instant, the Panama Star and Herald published a notice by means of which my Government has learned that the South American Steamship Company's steamer *Loa*, which has been lying at the La Boca wharf, has been cleared by the authorities of that port for outports.

I shall appreciate the courtesy if you will furnish me with a copy of the order authorizing the captain of the *Loa* to weigh anchor, if by so doing it will not in any manner inconvenience you.

At the same time I should like to know if the procedure was voluntary on your part, or was it at the suggestion or request of a third party or company? In such an event I shall esteem it if you will also inclose a copy of the request so made.

I take advantage of this opportunity to reiterate the assurance of my distinguished consideration, and have the honor to subscribe myself,

Your obedient servant,

TOMAS ARIAS.

Maj. Gen. GEO. W. DAVIS,
Governor of the Canal Zone.

APPENDIX C.

PANAMA, July 9, 1904.

GENERAL: I am in receipt of your attentive communication of the 5th instant, replying to my request of the same date regarding the clearing of the Chilean steamer *Loa* by the authorities of La Boca, district of Ancon, and beg to offer you my sincere thanks for the attention bestowed.

With regard to the matter referred to in these communications, I consider this the occasion to inform you that the Government of the Republic of Panama does not entertain any other wish than that of cooperating with the American Government in the work of constructing the interoceanic canal, facilitating, as much as depends upon it, the execution of the enterprise. Of this disposition it has given evident proof, first, by giving its immediate approval of the Hay-Varilla treaty without offering any objections to the inconveniences that some of the clauses therein contained might cause the Republic. This course was pursued in the persuasion that the good will and friendly relations which now exist between the two contracting Governments would remove all difficulties that might arise from its adoption. Secondly, by a strict compliance with each and all of the articles of agreement.

For the same reason it is the wish of my Government to avoid any difficulties that might arise and be the cause of obstructions in the relations of the contracting parties, and with this object in view it addresses to you this communication. A further object of the address is to more clearly elucidate a point of great importance, the interpretation of which is at issue and about which it appears that we are not in accord, and is as follows:

By Article II of the treaty referred to the Republic of Panama granted in perpetuity to the United States the use, occupation, and control of a zone of land and land covered by water for the construction, preservation, operation, sanitation, and protection of a ship canal across the Isthmus of Panama to connect the Atlantic and Pacific oceans, the zone to be of a width of 10 miles, extending 5 miles on either side of the projected canal. Beginning at 3 miles from the mean low-water level in the Caribbean Sea, it extends across the Isthmus to a like distance from mean low water in the Pacific Ocean, the cities of Panama and Colon and the harbors adjacent not to be included in the concession.

By Article III of the treaty the Republic of Panama granted to the United States all the rights, powers, and authority (enumerated in Article II) which they could possess and exercise with the same freedom as if they were sovereigns of the territory acquired, the use, occupation, and control of which the Republic of Panama has ceded to them; the cities of Panama and Colon and adjacent ports thus remaining outside the jurisdiction of the Government of the United States of America.

The stipulation of these clauses is perfectly clear, and it is therefore not necessary to discuss their literal meaning in order to understand their purport; but for the purpose of giving the situation greater clearness I take the liberty of making a few observations on the meaning of the words "adjacent" and "ports."

Adjacent is that which is immediate, close, or proximate; and thus it has been truly said in geographic terms that, "Balearic and Patiusas islands are adjacent to the Iberian Peninsula."

Port is a part of the sea in which ships find ready protection against the waves and winds, and in which there is water sufficient for navigation and where ships may remain at anchor.

Therefore that locality surrounding and near to the islands of Flamenco, Naos, and Perico and facing the city of Panama, where ships of deep draft cast anchor, is a port, for the reason that ships find there ample protection from the waves and winds, there is sufficient depth of water for navigation purposes, and they can effect the operation of loading and unloading. The place is adjacent to the city of Panama because it immediately adjoins or is next to it.

Therefore, in accordance with the exception established in Article II of the Varilla-Hay treaty, although this place is comprised within the Zone it is not within the jurisdiction of the United States. It is for this reason that my Government considers that when a vessel anchors at the point indicated it is under its (Government's) jurisdiction and without diminishing in the least the right acquired by the United States over the lands of the islands of Naos, Flamenco, and Perico.

The fact that in the agreement regarding provisional delimitation of the cities of Panama and Colon and the Zone there is not expressly excepted the port to which I have referred in no way affects the claim which my Government makes. Even though this delimitation is not definitive, the contract has the force of law for the parts that are subscribed to, and can only be altered, modified, or added to through a convention of the contracting parties and by the adoption of another treaty made with the same formalities as the one in existence.

Again, the location to which I have referred is the only place in the Bay of Panama and next to the city of the same name which has the necessary shelter and depth to enable ships plying between Panama and the ports of North, Central, and South America to anchor with safety.

If it is acknowledged by my Government that the port in question is not excepted by Article II of the treaty (so many times referred to), Panama would be without a port for communication with the outside world and its maritime commerce would fall off entirely. This part of the bay included between the point of Chiriqui and the point of Paitilla is not, properly speaking, a port, but merely a creek, into which ships of regular draft could not enter.

It is hard to believe that the American Government intends to do anything by the Republic of Panama that will mean such grave injury, especially when it has already given such positive proof of the interest which the progress and development of this nation merits.

Furthermore, if the closing stipulation of Article II (referred to) were not in the treaty, not even for that reason could be more clear the rights for which my Government argues. It is a principle of right rather than the known intention of the contracting parties, which must be more to the Government than the literal meaning of the words. The intention of the American Government not to exercise jurisdiction over the ports giving access to the Zone is clearly set forth in Clause XIII of said contract, for otherwise that article would be null and void.

In regard to the place known as La Boca, the Government of the Republic has never considered it as a port, but as a point of access to the canal, so much so that when the railroad company was released from the obligation of extending its lines to the islands of Naos, Flamenco, and Perico the Colombian Government declared that the railroad company and the enterprises connected with it could use the maritime canal which runs from said islands to the wharf at La Boca, provided the canal company agreed to it, and the Government would not assume any responsibility nor would it interfere with any controversy regarding such permission.

I sincerely hope, General, that the reason which I have brought before you will convince you of the reason and of the justice which prompts my Government to ask, as it does very respectfully, that you will give orders to suspend the clearance of vessels from La Boca wharf without the knowledge of the authorities of the port and in deference to our laws on the subject.

My Government, as I have already informed you, complies and will continue to faithfully comply with the agreement for the benefit of the world, and especially for the benefit of the great American nation, and hopes and trusts that these same sentiments will prevail in your mind.

I reiterate to you the sentiments of my distinguished consideration, and I am pleased to subscribe myself,

Your obedient servant,

TOMAS ARIAS.

ISTHMIAN CANAL ZONE, EXECUTIVE OFFICE,
Ancon, July 11, 1904.

EXCELLENCY: Late on Saturday, the 9th instant, I received your excellency's appreciated favor of the same date respecting matters touching foreign maritime commerce, in which your excellency observes that we do not seem to be in accord.

The clear statement of the position of your excellency's Government in respect to this matter, which is now before me, will be forwarded by the first mail to Washington, to the end that it may be laid before the proper authorities, for I find myself without the power to give the order respecting clearances of vessels from La Boca, which your excellency asks me to issue, and I regret exceedingly that I am so situated that a favorable response to your excellency's request is impracticable.

But I have taken every possible means to give the authorities in Washington the earliest information respecting the situation confronting me here in respect to the clearance of vessels.

Learning, as I did on the 8th of this month, that a vessel at anchor within what I consider to be American jurisdiction was unable to obtain clearance from the authorities of the port of Panama for entry at Ancon, I reported this fact by cable, with all the information I had on the subject.

On the next day I was officially advised by the agent of the steamer in question that he had been denied for his vessel a clearance for the port of Ancon, said agent furnishing me with a copy of the notice he had received from the captain of the port of Panama.

This was the subject of another cable on the same date, and yesterday I sent to Admiral Walker, in Washington, for reference to the Secretary of State of the United States, a long cable giving the substance of the contents of your excellency's appreciated favor of the 9th of July, referred to above.

While we were discussing the agreement for the delimitation of the Canal Zone and feeling uncertain as to the exact construction to be put upon the words "harbor adjacent" with respect to the city of Panama, I made inquiry, and was informed by Admiral Walker that in the opinion of the Secretary of State, Mr. Hay, and of the Secretary of War, Mr. Taft, and of himself, the words in the treaty quoted above, respecting the "harbor adjacent" to the city of Panama, meant the old harbor of the city, lying between Point Chiriqui and Point Paitilla, and which was used entirely by all vessels prior to the construction of the La Boca wharf. At that time I also had my attention directed to a map of the Isthmus of Panama, published in the year 1855, and reprinted some years later by the old Panama Canal Company, being the work of General Totten, who was the chief engineer of the Panama Railroad. Upon this map the British anchorage and the American anchorage for ocean vessels is marked, and I saw that the waters then used for an anchorage, according to this map, were far away from the Flamenco and Naos anchorage now used, being quite a mile and a half or two miles therefrom and by that distance nearer to the old landing place then used by the city of Panama. I remembered also that in the year 1867 I had personally embarked on a deep-sea vessel, anchored as described above, and proceeded on the ship to San Francisco.

These were considerations which principally caused me to conclude that there was no question as to what was meant by the reference in the treaty to the "harbor adjacent," and the matter seemed to me to be so plain that it did not occur to me to discuss it with your excellency while we were arranging the delimitation agreement. I was, therefore, very much surprised, indeed, when I learned the views adopted by your excellency's Government were so radically different from those entertained by my own.

Since I first saw the Varilla-Hay treaty and had an opportunity to study it, I have supposed, as a matter of course—indeed, as an inevitable necessity—that the United States, as exercising all power in the Zone that a sovereign could exercise, would be obliged to create ports that vessels from any part of the world might, with justice, claim the right to use. It was also evident, in my opinion, that the United States would consider it to be necessary to establish these ports for another reason, and that was that the subject of maritime quarantine could be handled more easily and directly than through another, though thoroughly and entirely friendly Government.

A very large part of the shipping to use the ports at either end of the canal would be the vessels engaged in the ordinary commercial movement that for many years has found the Isthmus of Panama a convenient route of transit, and the dangers to be incurred from the introduction of contagious and in-

fectious diseases was due very largely to the fact that this trade exists and must be continued, and the means that would best effect the quarantine control of the trade would be the means that could be applied most directly and with least formality.

That such a view of the case was widely entertained was also very soon made evident to me by the questions asked almost as soon as I arrived on the Isthmus to the effect of, "When shall we have ports at either end of the canal?" and "When will you be ready to receive and clear vessels?"

The situation as respects Panama is different as to that which exists at Colon, for on the Pacific coast of the Isthmus the canal channel has already been made and has been many years in use as the regular route of trade and commerce, and La Boca has become an important place of embarkation. That this importance was bound to continue and increase was almost self-evident, and while it had not yet received a name as a port of entry, the physical fact remained that it was the principal port on the Pacific coast of the Republic, and as such has passed under the jurisdiction of the United States.

At Colon, however, the conditions are quite different. There is no canal port as yet on the Atlantic side adequate to receive and accommodate the shipping which now frequents the port of Colon, and some time must elapse before like accommodations can exist at Colon to those which now exist on the Pacific coast. But that a change must soon occur there is almost certain; indeed inquiries are now before me as to the depth of the water in Folks River, and inquiries as to the facilities there for discharging deep-sea steamers and sailing vessels. The Government of the United States is not yet ready to receive large vessels at this point, but in a short time that condition may be changed, when possibly the situation here may be repeated on the Atlantic side.

Your excellency refers to the grave injury that the Republic would suffer by the loss of her maritime commerce, and have expressed the hope that the Government of the United States would not inflict such injury upon the Republic.

Perhaps this is not a proper subject of discussion by me, as it relates to the internal affairs of your excellency's Government, but I venture one or two remarks in respect to it, which I hope will be received in the spirit in which they are made, because there is no subject respecting my service here which is nearer to my heart, after the accomplishment of the work which the United States has undertaken here, than to in every way proceed in harmony with the wishes of the Republic of Panama.

The possession of maritime commerce by a nation is regarded by many as of very great importance; by many nations it is fostered and increased by every practicable means, but some nations are so situated that it is impossible for them to have a foreign commerce at all, and yet they are rich and prosperous. Notable in this category is Switzerland, which has never had a seaport and yet is increasing in wealth and prosperity by leaps and bounds.

The Dominion of Canada for four months in the year has no convenient Atlantic seaport, the St. Lawrence River being almost always in the winter obstructed by ice, and its use by deep-sea vessels is beset with a great many difficulties. During this period many, many thousands of tons and carloads of goods imported to Canada and exported from that country are loaded at Portland, in the State of Maine, in the United States, and passed through to Montreal and Toronto, and vice versa, without the slightest difficulty. So, too, thousands and thousands of carloads of freight are passed every year from the American port of Buffalo across the southern peninsula of Canada to Detroit, in the United States.

In the winter the ports of Russia on the Baltic are frequently closed by ice, and the trade of Russia goes on through Germany without the slightest difficulty.

So also with the great Empire of Austria-Hungary, which Empire possesses but the single port of Trieste, where not one-tenth of the commerce of the nation could be accommodated, and where only an infinitesimal portion of the trade and manufactures of the nation pass on their way to other nations and countries.

The mere fact that a vessel receives and discharges her cargo at the port of Panama, for example, may or may not be of great importance to the commercial prosperity of the capital city of the Republic, but I can readily conceive that the prosperity of your capital may not be in anyway impaired if its trade, now done entirely in foreign ships, entered and cleared by your own officials, received and delivered at La Boca, should be continued to be handled at the same place, though entered and cleared by the American authorities. I can not see how the wealth or prosperity of the country will be affected in any way by this fact.

Our sanitarians and engineers are just now ready to begin their work of changing the health conditions which have heretofore existed. In many parts of the world the name of Panama has heretofore been associated in the minds of many intelligent people with the idea of disease and death. I know that this reputation was not altogether deserved; but that there was a tremendous mortality during certain past epochs of the history of the Isthmus no one can deny. This condition the American Government has undertaken to change. It is the confident hope and expectation of all persons connected with the canal enterprise that the city of Panama will be made as healthful and as salubrious and as attractive as in the past it has been the opposite in the opinion of many; and, if we realize the result we are now setting out to accomplish, it seems to be entirely reasonable to expect that the capital of the Republic will increase in wealth and prosperity in a degree too great now to be estimated, and that her merchants, her business men, her professional men, the employed class in all ranks and degrees of life will participate in the advantages to come from this change.

On the 24th of June the President of the United States gave me instructions to publicly proclaim the law respecting the establishment of ports at Ancon and Cristobal and the application of customs rules and regulations to the Canal Zone. I received this communication on the 5th day of July and hastened to put your excellency in possession of a copy thereof at the earliest possible moment, because I knew how important some of the provisions of this order were to the Republic of Panama.

In previous communications on the general subject of the tariff and trade I had already officially requested of my Government that, in case it should be found necessary to apply to the Zone the same rates of duties which apply to the United States, they should give to the governor of the Zone the authority to arrange with the Government of Panama a reciprocity agreement which would save to the Republic much inconvenience which would come from diverse rates of duties and customs in the Republic and in the Zone.

I pointed out particularly the desirability of arranging the duty on liquor and tobacco in such a way that the taxes collected within the Zone and without the Zone would be the same, and I informed the authorities in Washington that the President of the Republic had already had delegated to him by the National Assembly the authority to meet the United States in these reciprocal arrangements.

You have not failed to observe that these provisions looking to reciprocity are provided for in the President's order, a feature of this law which I am sure you will concede has been prompted by the most kindly feeling toward the Republic, and all that now remains in this connection is that we should draw up the agreement upon the tentative understanding that is referred to by the President of the United States.

Coming down to the question of the suspension of my order, I am sorry to say, as I have already intimated, that this is impossible, because this is an order based entirely on instructions from my superiors; but as respects the steamers which may hereafter arrive at the anchorage near Flamenco and there discharge and take on cargo from the landing place to the east of the city of Panama, I shall in no way interfere with the entry and clearance of those vessels. If any such vessel should bring me a clearance from the Panama authorities and should enter at Ancon, of course I shall be obliged to give that vessel proper facilities to complete its business. If vessels are lying at the port of Ancon and have discharged and loaded at La Boca and are ready to proceed on their way, it would be manifestly improper for me to refuse them clearance; but that this may not be done without the knowledge of your excellency's Government, I shall instruct the collector of customs of the port of Ancon to, in all cases, send to the captain of the port of Panama a copy of any clearance which he may issue, so that the authorities of your excellency's Government may have the earliest information respecting the transaction.

I shall acquaint your excellency with any instructions I may receive on this subject.

Your excellency has cited certain articles of the canal treaty as sustaining the position of the Government of Panama takes with respect to certain geographical terms and to the treaty itself.

In this reply to your excellency's presentation I have not discussed the treaty at all, or any of its provisions, for the reason that I deem myself precluded from such action, in that the American Government has apparently reached a decision on these points.

Before closing, I wish to say that in all my negotiations with your excellency and in my interviews with His Excellency the President of the Republic, I have received the most cordial and friendly and even generous treatment, a fact which I have not failed to make known to the authorities of my Government in Washington, and if there is anything that remains undone which it is in my power to do to cement still closer those relations of friendship, I shall esteem it a great favor to have intimated to me the manner in which that can be accomplished.

I have the honor to be, excellency, your obedient servant,

_____, Governor.

APPENDIX D.

ISTHMIAN CANAL ZONE, EXECUTIVE OFFICE, Ancon, July 19, 1904.

EXCELLENCY: I am in receipt of a letter from the agent of the Pacific Mail Steamship Company, with inclosures to the same, as per copies herewith.

Assuming the correctness of the translation and of the copy of the communication dated Panama, July 16, 1904, signed by the jefe del resguardo, port of Panama, I beg to ask your excellency's attention to the following:

The article of the treaty between the United States and the Republic of Panama giving the United States authority over the Canal Zone also gives to the United States "all the rights and authority" which a sovereign might exercise.

One of the acts authorized to be done thereby has been done by my Government in the creation of ports of entry for the Zone and the establishment of regulations for the control of commerce within its limits. The regulation of foreign commerce with the Zone is one of the functions of government, and the visit of the port captain, clearance from last port, delivery of manifests, with lists of stores and passengers, are all acts which can only be required of vessels transporting foreign commerce by the government exercising sovereign authority.

I observe that the writer of the letter adverted to above declares that La Boca pier, although within the Canal Zone, "has to come under the jurisdiction of the isthmian authorities," thereby meaning, as I suppose, the authorities of the Republic of Panama. As the Republic of Panama is precluded from the exercise of any sovereign authority within the limits of the Canal Zone, it would seem to be self-evident that the jefe del resguardo is quite in the wrong in his statement that La Boca is under the jurisdiction of the Republic of Panama.

As all the vessels of the Pacific Mail Steamship Company habitually go to the La Boca pier, there to discharge and receive their cargoes, a fact which seems to have been known to the jefe del resguardo, and as your excellency's Government has already formally recognized, in a document signed on the 15th day of June, 1904, that the United States has exclusive jurisdiction and control over the Canal Zone, and as La Boca pier and the dredged canal leading thereto, which serves as a berth for vessels lying at said pier, are both within the Zone, I have to advise your excellency that while I have no objection to conceding that vessels bound for or within the port of Ancon may be boarded by the guards and other port authorities of the Republic of Panama, and that the captain of the port of Panama may inspect the ship's papers, so as to facilitate the collection of revenues by the authorities of the Republic of Panama and to prevent contraband trade, as contemplated by the first portion of the last paragraph of article 11 of the canal treaty, yet I shall consider the imposition of a fine by your excellency's Government, or by the authorities of the port of Panama, upon a ship lying within the waters of the port of Ancon, which I consider the anchorage adjacent to the island of Naos to be, as an act not justified by anything heretofore done, or left undone, by the agent, owners, or master of said ship, or by the Government of the United States or of the Canal Zone.

The next to the first paragraph of the letter before me from jefe del resguardo inquires of the agent of the Pacific Mail Steamship Company why he changes the destination of merchandise coming as local cargo, delivering the same at a port considered as different from the one for which bills of lad-

ing have been signed? Since freight coming by vessels discharging at La Boca pier is treated exactly the same as it was before the United States had any authority at La Boca, I can not see the pertinence of the inquiry made by the jefe del resguardo. The agent could, perhaps, respond by saying that a new name may have been substituted for the old one, because Panama had divested herself of jurisdiction and the functions of sovereignty at La Boca.

Even as respects the old landing place at La Boca, now in the port of Ancon, the current of commercial movement is now exactly as before Panama surrendered her jurisdiction there. The merchants of Panama receive their cargoes without delay and without other taxes or charges than those that the Government of Panama sees fit to impose on goods coming within Panaman jurisdiction.

I regret exceedingly the necessity of addressing this letter to your excellency, for I had hoped, as I stated in our last interview, that a *modus vivendi* could be arranged and observed until, through diplomatic channels, the whole question at issue between the two Governments could be satisfactorily adjusted. At that interview I was told that such a provisional arrangement was not practicable, since I could not discontinue clearing vessels from Ancon.

I have informed the agent of the Pacific Mail Steamship Company that those vessels wishing to come to the Canal Zone with clearance from foreign ports for the port of Ancon will be given the same quick dispatch as was given those vessels recently cleared by the authorities of the Republic for the port of Ancon.

As your excellency will, of course, understand, the foregoing is based upon the assumption that the letter of the jefe del resguardo, of which I send copy herewith, was actually written, and that the translation hereof is correct. I beg to assure your excellency that the hope is sincere on my part that no such letter was written, or that, if written, it was not authorized by your excellency's Government.

With the continued assurance of my most distinguished consideration, I have the honor to be, excellency,

Your obedient servant,

GEO. W. DAVIS,
Governor.

His Excellency TOMAS ARIAS, etc.

APPENDIX E.

[Memorandum.]

OFFICE OF THE SECRETARY OF GOVERNMENT AND FOREIGN AFFAIRS, Panama, July 27, 1904.

The undersigned, secretary of government and foreign affairs of the Republic of Panama, has received instructions from the President of the aforesaid Republic to submit to his excellency the envoy extraordinary and minister plenipotentiary of the United States the following:

Pursuant to orders given by the President of the United States of America for the creation of ports and the establishment of customs regulations in the Canal Zone, the governor of said Zone has forthwith declared as ports of entry the section denominated La Boca, wherein he has in consequence thought fit to assume (disregarding the Republic of Panama) the prerogatives of sovereign of the port, entering and clearing vessels, establishing and collecting port dues, and, finally, adopting measures tending to the establishment in the Canal Zone of the customs system of the United States.

In a similar fashion the postal tariff and postage stamps of the United States have been made obligatory within the limits of the Canal Zone, and it appears the belief was entertained that the United States could, at its option, establish in the Canal Zone a monetary system different from any adopted by the Republic of Panama.

Such proceedings and intentions are undoubtedly the result of the interpretation given by the United States of America to the treaty concluded with Panama on the 18th day of November, 1903. On such points as are of vital importance to the growing Republic, and as such interpretation clashes with the opinion of the Government of Panama in what concerns the treaty itself and the points at issue, the undersigned, in the name of the President of the Republic, respectfully invites his excellency the envoy extraordinary and minister

plenipotentiary of the United States to exchange views in connection with the measures recently adopted in the Canal Zone, so as to give to the treaty by mutual accord such interpretation as is found to conform more to the spirit and letter of its stipulations.

Although the Republic of Panama could not offer any obstacle whatever to the wishes and convenience of the United States when negotiating the treaty of the 18th of November, 1903, it did observe, nevertheless, with pleasure, when approving without restrictions said treaty, that the United States had waived in favor of the Republic of Panama that which was neither needed by the United States nor by the canal enterprise, but which for the Republic constitutes the most effective guaranty of its existence—the fiscal and economical sovereignty within and without the Canal Zone.

This point is of great importance, because if it is a fact that a nation can cede part of its territory and its sovereign rights in connection therewith without materially affecting its proper existence, if it can surrender life itself, this very life without the corresponding nourishment is thereby doomed to certain death.

From this it follows that the treaty concluded with the United States amply provides on the one hand for all requirements of the canal enterprise, while at the same time it fully guarantees succor for the perpetual existence of the Republic of Panama.

The Republic of Panama has thus agreed to surrender a strip of land of the required area and with fixed boundaries to be excavated for a canal and to be eventually used by the world's commerce between the Atlantic and Pacific oceans. The Zone thus surrendered was ceded to the Government of the United States in perpetuity for the "construction, maintenance, operation, sanitation, and protection of said canal." Article II of the treaty.

Whatever was considered indispensable by the United States to secure in perpetuity the canal enterprise was readily granted by the Republic of Panama. By such concession the Canal Zone, properly speaking, was comprised in the grant, together with such lands and waters without the Zone as might be found necessary, including the islands of Perico, Naos, Culebra, and Flamenco. Moreover, it comprehended the rights, power, and authority (as per Article III of the treaty) which the United States shall have and exercise as if it were sovereign of the territory wherein said lands and waters are located, entirely precluding the Republic of Panama from the exercise of such sovereign rights, power, or authority.

But the general and, so to speak, the universal aspect of these concessions of sovereignty have, to judge from the embodiment of the treaty, two conceptions. One is conditional and the other exceptional, and each is indispensable to the welfare and existence of the Republic of Panama.

These two points are those which the undersigned, the secretary, believes to have been disregarded by the authorities of the Canal Zone by means of the measures denoted in the foregoing.

According to the clause in question, referred to in Article II of the treaty, "the cities of Panama and Colon and adjacent ports which are included in the described Zone, shall not be considered as comprised in this concession."

This provision has an object further than that of indicating the material possession of said cities and ports. It is evident that the object of the provision was to insure and safeguard the very existence of the Republic of Panama, reserving to it in perpetuity the aforesaid cities and ports as fiscal resources wherefrom to derive the most effective means of subsistence.

The Canal Zone, before being ceded and subsequent to its cession to the United States, formed part of the region where the business of importation and exportation was operated. It is the central spot between the two seas. The Republic derived its life and existence from that source, and hence it was found necessary to reserve that spot, notwithstanding the fact that in all other respects it was ceded to the United States.

It is the opinion of the undersigned that the cities of Panama and Colon and the ports adjacent thereto are separate and distinct from the Canal Zone, virtually leaving the Zone without jurisdictional ports.

Hence the right of levying and collecting maritime taxes, etc. (without regard to the exceptions provided for by the treaty referring to all shipping and to everything connected with the canal enterprise), has invariably been a prerogative of the Republic of Panama; and the Republic claims it by virtue of the spirit and letter of the treaty concluded on the 18th of November, 1903.

Not only that; the Republic claims the acknowledgment of its economical and fiscal sovereignty within the Canal Zone, not alone because it considers the Government as having been vested with that right according to the treaty, but for the more potent reason that its future and its existence depend on it. The fact stands, therefore, that Panama, being the original owner of the Canal Zone, will steadfastly claim all that has been by it clearly reserved and will yield nothing that it has not expressly surrendered.

The sovereign right of levying taxes within the Zone does not appear to have been surrendered to the United States by any of the stipulations of the treaty. On the contrary, that right is implicitly acknowledged by Clauses X and XIII, wherein are specified the effects that can not be subject to taxes. It follows, therefore, that other effects are liable to taxation. In other words, national taxes and contributions take effect in the Canal Zone in so far as not expressly excepted by said Articles X and XIII.

This being the case, the fact of excluding from the Canal Zone, by order of the authorities there, the postal tariff and postage stamps of the Republic of Panama, is, to say the least, improper, inasmuch as such proceeding affects in a marked manner a source of revenue from which it expects good results in the near future.

Finally, and as a logical understanding of the meaning of the treaty whereby the fiscal and economical sovereignty is assured to the Republic, it considers that the rights which are so clearly and expressly reserved to itself have not been given the proper consideration.

The foregoing are ideas which have been considered as proper to submit to his excellency the envoy extraordinary and minister plenipotentiary of the United States of America as a true expression of the feeling of the National Government in order to serve as a basis of an interpretation of the treaty of the 18th of November, 1903, the subject-matter of which is of such vital importance to the Republic of Panama.

TOMAS ARIAS.

PANAMA, July 28, 1904.

MR. MINISTER: On account of the opening of the ports in the Panama Canal Zone and the consequent acts executed by the authorities of that territory and by the agents of navigation companies and captains of ships, grave difficulties have arisen and the outlook for the future life of the Republic of Panama is in every way a deplorable one. As an independent and sovereign state, the Republic is deserving of the right of respect even by the most powerful nations in the world and by the United States of America. The United States is a natural ally, and the Republic of Panama has not only the right to expect common respect from this source, but more deferential and special treatment than which has been accorded to it.

The treaty of November 18, 1903, can not and should not serve as a pretext for any unusual tendencies on the part of either party to the contract. It is really a bond of perpetual union between the two nations upon which the eyes of the universe are fixed in the expectation of realizing a great and mutual benefit. Starting, then, with this same conception my Government can not accept the idea that the opening of the said ports was in obedience to the orders of your excellency's Government, but to the erroneous interpretation of the treaty on the part of the authorities of the Canal Zone. Be this as it may, the acts thus far accomplished are of a highly alarming nature and threaten to impair the interests and lessens the dignity of the Republic.

Because of this condition I take this opportunity to present to your excellency a most courteous but solemn and energetic protest against such acts as are being accomplished while the illustrious Government of your excellency is indifferent to the exceptional demands of the situation.

I take this opportunity to renew to your excellency the assurance of my highest consideration and especial appreciation.

TOMAS ARIAS.

His Excellency JOHN BARRETT, etc.

APPENDIX F.

ISTHMIAN CANAL ZONE, EXECUTIVE OFFICE,
Ancon, August 2, 1904.

SIR: I have received your appreciated favor of the 1st instant, covering copy in Spanish, with English translation, of the protest filed with you by the minister of foreign relations of the Government of Panama against the attitude and acts of the Canal Zone authorities in the matter of opening the ports of Ancon and Cristobal.

Concerning the first paragraph of the letter above referred to, I notice expressions and references which can only be considered as relating to the United States which surprise me very much, but it is not my province to discuss those matters.

I find in the second paragraph the following expression:

"* * * * My Government can not accept the idea that the opening of the said ports was in obedience to the orders of your excellency's Government, but to the erroneous interpretation of the respective treaty on the part of the authorities of the Canal Zone. * * *"

This amounts to a declaration on the part of the minister for foreign relations of the Republic of Panama that the opening of the ports in the Canal Zone was not in obedience to orders from the Government of the United States, but was due, instead, to an erroneous interpretation of the treaty on the part of "the authorities of the Canal Zone."

As every official act of said authorities was taken by my initiative or authorization or with my knowledge, I can only recognize in the language used an assertion that I have exceeded my authority.

On the 5th day of July, 1904, I addressed to his excellency the secretary of state of the Republic of Panama a letter containing the following words:

"I have this day received, by transmission through the Secretary of War of the United States, the order of the President of the United States regarding customs tariffs and duties for the Canal Zone, of which I inclose copy herewith.

"Thinking it may be a matter of interest to your excellency's Government, I take this early opportunity of giving you the information therein."

The inclosure to the letter, referred to in the above quotation, the full text of which was transmitted to the secretary of government, had as its first section the following:

"By direction of the President, it is ordered:

"SECTION 1. The territory of the Canal Zone of the Isthmus of Panama is hereby declared open to the commerce of all friendly nations. All articles, goods, and wares, not included in the prohibited list, entering at the established customs ports will be admitted upon payment of such customs duties and other charges as are in force at the time and place of their importation."

By the second section of this order of the President of the United States it is provided:

"Sec. 2. For the purposes of customs administration in said Canal Zone there are hereby established two collection districts as follows:

"First. The district of Ancon, comprising the southern half of said Canal Zone * * *.

"The port of entry in said district shall be Ancon.

"Second. The district of Cristobal, comprising the northern half of said Canal Zone * * *.

"The port of entry in said district shall be Cristobal."

On the 6th day of July, 1904, I had the honor to receive from his excellency the secretary of state and minister for foreign relations a letter acknowledging receipt of the above referred to communication, in the following terms:

"I have the honor to acknowledge the receipt of your excellency's attentive communication of to-day's date, accompanied by a press copy of the fiscal dispositions dictated by the President of the United States for observance in the Isthmian Canal Zone."

In view of this correspondence the statement of this secretary of government and minister for foreign affairs, to the effect that his Government can not accept the idea that the opening of said ports was in obedience to the orders of the United States Government, is entirely incomprehensible to me.

I am entirely ignorant of the existence of any authority for the statement made by the secretary of government and minister for foreign relations, and I would be glad to have the proof cited upon which he relies in support of his statement.

Very respectfully,

-----, Governor.

HON. JOHN BARRETT,
*Envoy Extraordinary and Minister Plenipotentiary of the United States,
Panama, Republic of Panama.*

PANAMA, August 27, 1904.

MR. MINISTER: I have before me your excellency's esteemed note of the 18th instant, inclosing a copy of the letter of General Davis, governor of the Canal Zone, addressed to your excellency on the 2d instant, and showing his surprise at the terms of the protest which I presented to your excellency on July 28 upon the question of the opening of the ports in the Zone.

It is quite true that General Davis forwarded to this office in his note of July 5 a copy of the order of the President of the United States of America, issued through the Secretary of War, and I acknowledge receipt of the same on July 6; but as from the terms in which the order was conceived it could be deduced that the principal object of the order was to declare open to the commerce of all nations the territory of the Canal Zone, without implying the opening of the proper maritime ports at each end of the Zone, because such a proceeding would make illusory the existence of the ports of Panama and Colon which were guaranteed by the exception which limited the general rule of the treaty of November 18, 1903, the undersigned considered and will still consider that the order of His Excellency the President of United States should not be interpreted in any other way and hence is the reason for the conception which surprised General Davis.

Now, if the order in question extends to the opening of maritime ports, this order does not conform with the text of the treaty according to the understanding of my Government, and General Davis remains exempt from all observation as the executor of the order.

At all events the matter now finds itself in diplomatic discussion and no doubt soon a decision will be reached, and then it will be seen which of the parties was mistaken, but I think that the views expressed by one party should not be used against the other, because such a proceeding would limit the free defense of the rights which one of the parties considers that it holds.

Such being the case, without doubt General Davis should not see in the terms of my protest any groundless opinion against his actions as governor of the Canal Zone, but only the voice of duty raised for the protection of rights which are considered incontrovertible. General Davis, on the contrary, has been and always will be the object of my highest consideration.

TOMAS ARIAS.

His Excellency JOHN BARRETT,
*Envoy Extraordinary and Minister Plenipotentiary
of the United States of America.*

EXHIBIT G.

JULY 16, 1904.

ISTHMIAN, Washington:

* * * Two telegrams 14th received. Have seen sec. state. Differences between Panama and America fundamental, former contending that until after completion canal latter has no right to establish for Zone any customs system or ports entry for international commerce. In reply to my question if Government was ready to discuss reciprocal agreement, articles eight and nine President's order June 24, sec. state said that was premature since his Government believed ours could not legally impose any trade conditions that could be the subject of an agreement. In my opinion cause of change and refusal to grant clearance for Ancon after granting clearances four vessels arises from alarm Panama merchants lest Dingley tariff in Zone will destroy their business. If assurances was given to sec. state that under articles eight and nine, President's

order. It is contemplated that reciprocal agreement would provide for excise, license, and consumption rates in Zone on goods imported from America, so that cost to consumer in Zone and Republic would be same might allay fear which Government shares with merchants and facilitate negotiations I am required to conduct. Think it would be right to make liquor and tobacco cost Zone inhabitants what it does now, Republic conceding large reductions their tariff on other American products.

Yesterday *City Peking*, having cleared from Central American port for Ancon on arrival was boarded by captain port Panama, who entered protest for that Government against entry at Ancon. The vessel entered, is now unloading, and goods arriving for Panama merchants by this steamer are already in their possession. When ready to leave steamer will be cleared by me. I have not collected any tariff duties on imported goods or interfered in any way with ordinary current of commercial movement. Authorities Republic concede American right to import free of duties everything required for canal construction, directly or indirectly, but no other commercial privilege. Few weeks ago I know they had a different view, and the passage of their law number 65, June 6, proves that fact. My relations with Panama authorities entirely friendly.

WASHINGTON, D. C., July 14, 1904.

ISTHMIAN, Panama:

With reference to your telegram of 11th, suggest that confer with Panama officials respecting plan for the use of anchorage and wharves at La Boca for vessels desiring land cargo at Panama. United States are trying to avoid injury to commerce of Republic, and it should not be difficult arrange for passage of merchandise in bond or under other guaranty from La Boca to Panama. This matter was included in the provisions of sections eight, nine, order President of the United States, June 24th. Upon receipt of letter mentioned in your telegram you will receive further advice.

JULY 14, 1904.

Continue to deal with La Bocas all within Zone. Refer to our letter of May 31, also agreement with Panama, concluded and forwarded by you June 21. Hope you will, by unofficial friendly conference with officials of the Republic, induce them to continue in force as a temporary arrangement issuance clearances vessels proceeding ports Republic to Ancon, Cristobal, and not to interfere with vessels entering at Ancon from outside ports until questions mentioned can be adjusted amicably by due and orderly negotiations through diplomatic channels. Telegraph the result of conference. Department of State have not received intimation that Republic considers recent order of President of United States with regard of customs in violation of treaty. Law June 6 Panama National Assembly recognize right and provide for results of exercise. Understand, according to your telegram, that Manavi, anchored off Flamenco, is lightering its cargo into Panama, and will load with new cargo from Panama. If we are right, pursuant comity of nations you should consider vessel as being alongside wharf at Panama, and therefore at liberty to move from port in waters of Zone without clearance from United States.

APPENDIX H.

Modus vivendi.

The secretary of state for the department of government and foreign affairs of the Republic of Panama, the envoy extraordinary and minister plenipotentiary of the United States of America in this city, and the governor of the Canal Zone met in the office of the first functionary, and considering:

SECTION 1. (a) That the governor of the Canal Zone has put into practice acts against which the Republic of Panama has solemnly protested regarding said acts contrary to the rights guaranteed in article 2 and correlatives of the treaty of November 18, 1903;

(b) That the governor of the Zone on his part understands that the measures adopted by him have a justification in the rights which the same dispositions stipulate for the Government of the United States and in the orders received by him from Washington;

(c) That such a difference of opinion arises from the interpretations which each party gives to the said stipulations; and

(d) That, as in similar emergencies which have occurred in diplomatic intercourse, in order to obtain the true interpretation of the stipulations they will agree upon, as a measure of prudence, the following *modus vivendi*:

SECTION 11. (a) Pending the settlement of the questions in controversy by diplomatic means, not to violate the existing state of affairs growing out of the emergency referred to; and

(b) To accept the adjustment of the situation as outlined in the attached memorandum.

In faith whereof they sign the present document in Panama, in triplicate, August —, 1904.

*Secretary of State for the Department of
 Government and Foreign Affairs.*

Envoy Extraordinary and Minister Plenipotentiary.

Governor of the Canal Zone.

MEMORANDUM.

1. Vessels arriving at the customary anchorage near the islands of Flamenco-Naos, having clearance for the port of Panama, which may be discharged at the railroad wharf or at the English wharf east of the city of Panama, will be received and dispatched by the Panama authorities without molestation or intervention by the authorities of the Canal Zone.

2. Vessels arriving at the customary anchorage near the islands of Flamenco-Naos, having clearance for the port of Panama, which vessels are to discharge their cargoes at La Boca wharf in the port of Ancon, will be cleared by the Panama authorities for the port of Ancon; when discharged and ready to depart they will be cleared from the port of Ancon by the authorities of the Canal Zone.

3. Vessels arriving at the customary anchorage near the islands of Flamenco-Naos, having clearance from the last port to the port of Ancon, will be entered at said port, and when discharged will be cleared and dispatched to their home ports by the authorities of the Canal Zone.

4. Vessels arriving at the customary anchorage, near the islands of Flamenco-Naos, cleared from last port for the port of Ancon, but unable to obtain a berth for discharging cargo at the La Boca pier, which therefore must discharge at the old wharf of the Panama Railroad or at the English wharf in the harbor east of the city of Panama, will be cleared for the port of Panama by the authorities of the Canal Zone, and when such vessel shall have finished discharging will be cleared and dispatched to her destination by the authorities of the Republic of Panama.

5. The parties to this *modus vivendi* hereby declare that the use of the anchorage near the islands of Flamenco-Naos shall be free to ships discharging either at the old landing places, at the Panama Railroad wharf and at the English wharf east of the city of Panama, or at the La Boca wharf; and the authorities of the Republic of Panama on the one hand and of the United States on the other do not and will not admit that such acts establish a precedent to the prejudice of the rights of the respective parties.

 DEPARTMENT OF REVENUES,
 DIVISION OF CUSTOMS.
Ancon, Canal Zone, October 29, 1904.

SIR: I have the honor to transmit herewith statement of transactions had in the customs department for the quarter ending September 30, 1904.

Acting under your instructions (communicated to my predecessor in office under date July 15, 1904), there has been no collections of duties, fines, custom

fees, tonnage tax, or other miscellaneous custom collections in the Canal Zone since the department of customs was organized. Entrance of all vessels with proper papers has been permitted at the ports of Ancon and Cristobal and clearances have been granted them. The ordinary services to vessels and seamen, which are by law a part of the duty of a collector, have been performed by your custom authorities.

Wherever it has been possible to safeguard the revenues of the Republic of Panama by notifying them of cargoes of merchandise consigned to ports in the Canal Zone, but for ultimate consumption in the Republic of Panama, it has been done.

I have also attached a statement of the shipping entering the port of Colon, vessels from which cargo is received into and through the Canal Zone.

While there has been very little done in the customs department up to the present time, owing to the differences of opinion between the authorities of the Government of the Republic of Panama and those of the United States, I anticipate, upon the settlement of these differences, a much larger amount of work and a reasonable amount of revenues.

Owing to the situation which at present exists in regard to customs affairs, I have the honor to report that no employees have been appointed, with the single exception of a deputy collector.

Very respectfully,

TOM M. COOKE,
Collector of Customs.

Maj. Gen. GEORGE W. DAVIS,
Governor Canal Zone, Ancon.

Movement of vessels at the port of Colon for the months of August and September, 1904.

Nationality.	Class.	Number entering.	Tonnage.	Number clearing.	Tonnage.
American	Steam	13	36,956	13	36,956
Do.	Sail	9	956	9	956
British	Steam	21	87,271	21	87,271
Do.	Sail	10	1,343	10	1,343
German	Steam	7	19,038	7	19,038
French	do	7	28,018	7	28,018
Norwegian	do	10	12,483	10	12,483
Italian	do	2	6,503	2	6,503
Spanish	do	2	11,286	2	11,286
Austrian	do	1	3,343	1	3,343
Isthmian	Sail	39	245	39	245
Total		121	207,341	121	207,341

Movement of vessels at the port of Ancon, Canal Zone, for the quarter ended September 30, 1904.

Nationality.	Class.	Number entering.	Tonnage.	Number clearing.	Tonnage.
American	Steam	14	26,491	13	25,451
British	do	8	11,995	8	11,995
Chilean	do	7	11,429	7	11,429
Total		29	49,915	28	48,875

Vessels remaining in port, 1: American: tonnage, 1,040.

Services rendered to seamen for quarter ended September 30, 1904:

Seamen discharged	9
Seamen shipped	13
Seamen deserted	14
Seamen deceased	None.
Seamen's wages collected	\$202.29
Seamen's wages paid out	\$202.29

Respectfully submitted.

TOM M. COOKE, Collector of Customs.

Reply of Secretary of State to Señor de Obaldia.

No. 12.]

DEPARTMENT OF STATE,
Washington, October 24, 1904.

MR. MINISTER: I have the honor to acknowledge the receipt of your communication dated August 11, 1904, advising this Department that you have received instructions from the Republic of Panama "to take steps looking toward the obtaining of a satisfactory settlement of the difficulties which have unexpectedly arisen between the authorities of the Republic and the governor of the Canal Zone, owing to the interpretation given by the latter to some of the clauses of the agreement concerning the isthmian canal concluded between the two countries on November 18 last."

The action of the Zone authorities, of which complaint is made, was taken pursuant to orders, copies of which are herewith transmitted, issued by direction of the President of the United States, and therefore it is inaccurate to attribute said orders to the governor of the Canal Zone.

I have read with the care and consideration its importance required the argument set forth in your communication in support of the contention that the United States is acting in excess of its authority (1) in opening the territory of the Canal Zone to the commerce of friendly nations; (2) in establishing rates of customs duties for importations of merchandise into the Zone; (3) in establishing post-offices and a postal service in said Zone for the handling of foreign and domestic mailable matter.

The right of the United States to adopt and enforce the provisions of said orders is dependent upon its rights to exercise the powers of sovereignty as to the territory and waters of the Canal Zone, and whether or not the United States is authorized to exercise sovereign powers in that territory is to be determined by the terms of the convention of November 18, 1903, between the Republic of Panama and the United States, referred to in your communication as the Hay-Varilla convention.

The United States can not accede to the proposition advanced by you as follows:

"As an indispensable antecedent of the Hay-Varilla convention must be regarded the Hay-Herran treaty, concluded January 22, 1903."

Whatever could or would have been the effect of the stipulations of the proposed treaty with Colombia, known as the "Hay-Herran treaty," is rendered unimportant by the fact that said treaty was not concluded, but was rejected by Colombia.

I note your reference to the provisions of said proposed treaty with Colombia (Art. IV):

"The Government of the United States * * * disclaims any intention * * * to increase its own territory at the expense of Colombia or of any of the sister republics of Central and South America; it desires, on the contrary, to strengthen the power of the republics on this continent, and to promote, develop, and preserve their prosperity and independence."

The policy thus announced did not originate with the proposed treaty with Colombia. It is the long-established policy of the United States, constantly adhered to; but said policy does not include the denial of the right of transfer of territory and sovereignty from one republic to another of the Western Hemisphere, upon terms amicably arranged and mutually satisfactory, when such transfer promotes the peace of nations and the welfare of the world. That the United States may acquire territory and sovereignty in this way and for this purpose from its sister republics in this hemisphere is so manifest as to preclude discussion.

The Government of the Republic of Panama having seen fit to object to the exercise by the United States within and over the Canal Zone of the ordinary powers of sovereignty, this Government, while it can not concede the question to be open for discussion or the Republic of Panama to possess the right to challenge such exercise of authority, considers it fitting that the Republic of Panama should be advised as to the views on the subject entertained by the United States and the reasons therefor.

The United States acquired the right to exercise sovereign powers and jurisdiction over the Canal Zone by the convention of November 18, 1903, between the Republic of Panama and the United States.

The character and extent of the grant of governmental powers to the United States and the resulting right and authority in the territory of the Zone are set forth in a separate article, as follows:

"ARTICLE III. The Republic of Panama grants to the United States all the rights, powers, and authority within the Zone mentioned and described in Article II of this agreement and within the limits of all auxiliary lands and waters mentioned and described in said Article II, which the United States would possess and exercise if it were the sovereign of the territory within which said lands and waters are located to the entire exclusion of the exercise by the Republic of Panama of any such foreign rights, power, or authority."

Let us test the existing controversy by the provisions of this article. "If the United States * * * were the sovereign of the territory," would it possess the right and authority to regulate commerce therewith, establish customs-houses therein, and provide postal facilities therefor? This question must be answered in the affirmative.

If it were conceded that the abstract, nominal "rights, power, and authority of sovereignty in and over the Zone" are vested in the Republic of Panama, there would still remain the fact that by said Article III the United States is authorized to exercise the rights, power, and authority of sovereignty "to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, or authority."

If it could or should be admitted that the titular sovereign of the Canal Zone is the Republic of Panama, such sovereign is mediatized by its own act, solemnly declared and publicly proclaimed by treaty stipulations, induced by a desire to make possible the completion of a great work which will confer inestimable benefit upon the people of the Isthmus and the nations of the world. It is difficult to believe that a member of the family of nations seriously contemplates abandoning so high and honorable a position in order to engage in an endeavor to secure what at best is a "barren scepter."

Under the stipulations of Article III, if sovereign powers are to be exercised in and over the Canal Zone, they must be exercised by the United States. Such exercises of power must be, therefore, in accordance with the judgment and discretion of the constituted authorities of the United States, the governmental entity charged with responsibility for such exercise, and not in accordance with the judgment and discretion of a governmental entity that is not charged with such responsibility and by treaty stipulations acquiesces in "the entire exclusion of the exercise by it of any sovereign rights, power, or authority" in and over the territory involved.

Article II of the convention provides that "the Republic of Panama grants to the United States in perpetuity the use, occupation, and control of a zone of land and land under water for the construction, maintenance, operation, sanitation, and protection of said canal."

The Panaman authorities now contend that the words "for the construction, maintenance, operation, sanitation, and protection of said canal," constitute a limitation on the grant; that is to say, that the grant is confined to the purposes so stated. The position of the United States is that the words "for the construction, maintenance, operation, sanitation, and protection of the said canal" were not intended as a limitation on the grant, but are a declaration, and appropriate words of conveyance. The compensation for the grant

A document evidencing a grant or transfer usually sets forth a description of the property granted, the inducement leading up to the grant, the compensation, and appropriate words of conveyance. The compensation for the grant under consideration is set forth in Article XIV of the treaty, as follows:

"As the price or compensation for the rights, powers, and privileges granted in this convention by the Republic of Panama to the United States, the Government of the United States agrees to pay to the Republic of Panama the sum of ten million dollars (\$10,000,000) in gold coin of the United States * * *."

Article I of the treaty provides that "the United States guarantees and will maintain the independence of the Republic of Panama."

It would undoubtedly be offensive to the Republic of Panama to be placed before the world as having been induced to consent "to the entire exclusion * * * of any sovereign rights" in the territory of the Canal Zone by the payment of money or because of a want of ability to maintain its independence. It would, however, be highly honorable and entirely justifiable to consent to such exclusion of sovereign right when the moving cause or inducement is "the construction, sanitation, maintenance, operation, and protection" of a work of such stupendous magnitude and world-wide importance as the isthmian canal.

The grant to the United States provided for in said treaty included also property other than the territory of the Zone. Article VIII stipulates that—

"The Republic of Panama grants to the United States all rights which it now has or hereafter may acquire to the property of the New Panama Canal Company and the Panama Railroad Company, as a result of the transfer of sovereignty from the Republic of Colombia to the Republic of Panama over the Isthmus of Panama * * *"

If the grant is subject to the condition and limitation contended for by the Panaman authorities, and the United States is not entitled to the revenues or benefits of the territory of the Zone, or to regulate its commerce with foreign nations, or to control its international relations, it also follows that the United States, while it may use the Panama Railroad "for the construction, maintenance, operation, sanitation, and protection of said canal," is not at liberty to regulate the use of said railroad by foreign commerce, and such revenue as is received by virtue of the rights conferred by the treaty, excepting for local traffic, belongs to the Republic of Panama. The proposition refutes itself.

The great object sought to be accomplished by the treaty is to enable the United States to construct the canal by the expenditure of public funds of the United States—funds created by the collection of taxes and moneys derived from the revenue measures of the United States. For many years after the adoption of our Constitution the belief prevailed that the funds of the National Government could not be expended in the construction of public improvements, excepting those required for the use of the National Government, such as the Capitol, Executive Department buildings, arsenals, forts, custom-houses, post-offices, etc. The construction of highways, railroads, etc., the improvement of rivers and harbors, etc., the protection and improvement of water powers, construction of canals, and similar undertakings for the use and convenience of the general public and private enterprises was considered to be outside the competency of the National Government, although said works were to be constructed in territory subject to the national sovereignty.

Finally it was established that the National Government had the authority to enter upon the construction of public works of the character referred to, and to devote the public funds of the nation thereto; and the reasons inducing such determination are all predicated on the fact that such public works are to be situated in territory subject to the national sovereignty. It is quite probable that this phase of the situation is not considered by the Panaman authorities, and that they do not distinguish the difference between the Government of the United States and the French canal company. The French company was a private enterprise and derived its funds from individuals who voluntarily devoted their private means to promoting the endeavor. Such funds could be expended anywhere and for any purpose sanctioned by the contributors.

But the Government of the United States in building the canal does not expend private funds, but public moneys derived by public taxation for public purposes. Moneys so realized may be used for national purposes outside the territory subject to the national sovereignty, such, for instance, as the promotion of a war in foreign territory, for in time of war the war powers of the nations are called into activity, and those powers are coextensive with the nation's necessities, and the conduct of war is especially enjoined upon the National Government by our Constitution; so also these funds may be expended for the purchase of ground for the erection of embassies, coaling stations, etc., for those are instrumentalities of the National Government; but the isthmian canal is an instrumentality of commerce, a measure for the promotion of the purposes of peace. Commerce is the life of a nation, but it is conducted by individual citizens in a private capacity and not as a governmental institution.

That the plain and obvious meaning of Article III was the one originally intended by the parties to the treaty is further shown by the provisions of Articles IX, X, XII, XIII.

For the proper understanding of the provisions of said articles it is necessary to bear in mind that the city of Colon, on the Atlantic, and the city of Panama, on the Pacific, each has a harbor in which are constructed wharves and piers suitable for landing cargoes and passengers. Both of these cities are in territory of the Republic of Panama. On the Pacific side the canal pierces the Isthmus at a point nearly 5 miles distant, following the shore line, from the ships landing in the harbor at Panama, and about 2½ miles distant straight across the peninsula. On the Atlantic side the canal pierces the Isthmus at a point half a mile across the bay from the piers in the harbor of Colon.

At the Pacific entrance to the canal the French company erected a large pier and dredged out a channel, so that vessels of deep draft might come up to this pier. This point is called La Boca. A branch of the Panama Railroad con-

nects said pier with the main line. Vessels, however, continue to enter the harbor at the city of Panama and discharge their cargoes. The waters of this harbor are shallow, and deep-draft vessels anchor offshore and lighter their cargoes, as they did for more than a century before the pier was built and the channel dredged at La Boca.

On the Atlantic side of the Isthmus the harbor and piers of the city of Colon are the ones of more convenient access to vessels. The entrance to the canal on the Atlantic side is called Cristobal, at which point there is a small temporary wharf, recently constructed, but a channel has not been dredged out. Consequently, practically all vessels sailing the Atlantic from the United States and elsewhere land at the Colon piers. The Panama Railroad Company has a line of steamers between Colon and New York, and there is also a steamship line between Colon and New Orleans. By far the greater portion of the commerce of Colon is with the United States, and it was obvious at the time the treaty was negotiated that a large quantity of materials and supplies and a large number of employees for the canal construction and the government of the Zone would arrive at Colon from the United States. Two piers in the Colon harbor belonged to the Panama Railroad Company and are now owned by the Government of the United States, but between said piers and the line of the Canal Zone there is a strip of land subject to the sovereignty of the Republic of Panama.

The provisions of Articles IX, X, XII, and XIII are intended to provide for the proper exercise of governmental authority under these conditions of fact. Article IX relates to the exercise of authority by both Governments. When separated the provisions read as follows:

"The United States agrees that the ports at either entrance of the canal and the waters thereof shall be free for all time, so that there shall not be imposed or collected custom-house tolls, tonnage, anchorage, light-house, wharf, pilot, or quarantine dues, or any other charges or taxes of any kind upon any vessel using or passing through the canal, or upon the cargo, officers, crew, or passengers of any such vessels, except such charges as may be imposed by the United States for the use of the canal or other works."

If it were intended that the United States should not secure the right to regulate foreign commerce entering the Zone, why was it required to stipulate that it would not impose or collect custom-house tolls, tonnage, anchorage, light-house, wharf, pilot, or quarantine dues, or any other charges or taxes of any kind upon the cargo, officers, crew, or passengers of ships entering the canal? If the Republic of Panama is the sovereignty exercising jurisdiction over foreign commerce within the Zone, why was the exception respecting tolls and charges for the use of the canal and other works made in favor of the United States?

The stipulations of said Article IX respecting the exercise of authority by the Republic of Panama are as follows:

"The Republic of Panama agrees that the towns of Panama and Colon shall be free for all time, so that there shall not be imposed or collected custom-house tolls, tonnage, anchorage, light-house, wharf, pilot, or quarantine dues, or any other charges or taxes of any kind upon any vessel issuing or passing through the canal or belonging to or employed by the United States, directly or indirectly, in connection with the construction, maintenance, operation, sanitation, and protection of the main canal or auxiliary works, or upon the cargo, officers, crew, or passengers of any such vessels, except tolls and charges imposed by the Republic of Panama upon merchandise destined to be introduced for the consumption of the rest of the Republic of Panama, and upon vessels touching at the ports of Colon and Panama and which do not cross the canal."

The expression "the rest of the Republic of Panama" must be held to refer to that portion of the territory of the Republic as existing at the time the treaty was negotiated, lying outside the boundaries of the proposed Canal Zone, unless it is insisted that it refers to that portion of the Republic which is not included in the towns of Colon and Panama—a contention that would hardly find favor with the authorities of the Republic. Why this exception in favor of the Republic of Panama if that Government possesses the right to regulate foreign commerce with the territory of the Zone?

Article IX contains the further provision:

"The Government of the Republic of Panama shall have the right to establish in such ports [the ports at either entrance of the canal] and in the towns of Panama and Colon such houses and guards as it may deem necessary to collect duties on importations destined to other portions of Panama, and to prevent contraband trade."

Why this provision if the right existed?

For the proper understanding of Article X it is necessary to bear in mind that the French Canal Company owned and the United States purchased from it a large amount of real estate situated in the towns of Colon and Panama, which towns are subject to the sovereignty of the Republic of Panama. Among other pieces of property, the canal office building, a large structure in the center of the town of Panama, the railroad station and terminals at Colon and Panama, the large piers in the harbor at Colon, the steamships, tugs, and other water craft belonging to the Panama Railroad, and the canal company's warehouses filled with machinery, materials, and supplies.

Practically all the employees working in and around these structures, and many other employees of the government of the Zone, the Panama Railroad and the canal construction department, reside in Colon and Panama. To meet this situation the treaty provides as follows:

"ARTICLE X. The Republic of Panama agrees that there shall not be imposed any taxes, national, municipal, departmental, or of any other class upon the canal, the railways, and auxiliary works, tugs, and other vessels employed in the service of the canal, storehouses, workshops, offices, quarters for laborers, factories of all kinds, warehouses, wharves, machinery and other works, property and effects appertaining to the canal or railroad or auxiliary works, or their offices or employees situated within the cities of Panama and Colon, and that there shall not be imposed contributions or charges of a personal character of any kind upon officers, employees, laborers, and other individuals in the service of the canal and railroad and auxiliary works."

Attention is directed to the fact that by the foregoing article the Republic of Panama foregoes the right to impose "any taxes, national, municipal, or departmental," on the property of the United States and its employees situated in the cities of Panama and Colon. If it had been contemplated that the Republic of Panama retained sovereign rights in the Zone or was at liberty to exercise those rights in that territory the United States would certainly have required the same exceptions for the large amount of its property in the Zone as it required for its property in the cities of Panama and Colon.

Perhaps no more complete refutation of the claims advanced by the Republic of Panama is necessary than to propound the inquiry, Is the Republic of Panama authorized to impose national, municipal, and departmental taxes on the property of the United States situated in the Canal Zone?

So well understood was it that the exercise of sovereign powers by the Republic of Panama was to be confined to the territory remaining to the Republic that in at least three articles referring to such exercise of power the territory of the Republic is not mentioned, although manifestly no other territory was under consideration.

The articles referred to are X, XII, and XIII.

Article X provides "that there shall not be imposed contributions or charges of a personal character of any kind upon officers, employees, laborers, and other individuals in the service of the canal and railroad and auxiliary works."

Article XII provides: "The Government of the Republic of Panama shall permit the immigration and free access to the lands and workshops of the canal and its auxiliary works of all employees and workmen of whatever nationality, under contract to work upon or seeking employment upon or in any wise connected with the said canal and its auxiliary works, with their respective families, and all such persons shall be free and exempt from the military service of the Republic of Panama."

It is perfectly plain that these stipulations relate to the exercise of governmental authority in the territory outside of the Canal Zone.

Let it be supposed that this treaty did not contain the provision "all such persons shall be free and exempt from the military service of the Republic of Panama." Would anyone contend, after reading Article III of the treaty, that a citizen of the United States employed on the canal and residing in the Zone owed such temporary allegiance to the Republic of Panama as to be liable to military service for that Government?

Article XIII must also be considered as relating to the territory of the Republic of Panama. That article provides that "the United States may import" (pass through the territory of the Republic) "into the Zone and auxiliary lands, free of customs duties, imports, taxes, or other charges and without any restrictions," certain designated articles, respecting which further provision is made, as follows:

"If any such articles are disposed of for use outside of the Zone and auxiliary lands granted to the United States and within the territory of the Republic, they shall be subject to the same import or other duties as like articles imported under the laws of the Republic of Panama."

Manifestly it is not until the goods are "outside the Zone" and "within the territory of the Republic" that they are subject to "import or other duties under the laws of the Republic of Panama."

The Panamanian authorities insist that it is by virtue of Article XIII that the property of the United States acquires the right of free entry into the Zone. Such contention is not warranted. Said article is intended to give the right of free transit across the territory of the Republic of Panama for goods belonging to the United States. The right of the United States to take its property into the Zone results from the provisions of Article XIII. The construction contended for by Panama makes Article XIII contradict, if not nullify, Article III, for by the terms of Article III the Republic of Panama grants to the United States "all the rights, power, and authority of a sovereign to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, or authority" in the Canal Zone.

When due consideration is given to Article III it is apparent that Article XIII relates to the exercise of sovereign powers by the Republic of Panama in territory wherein such exercise is contemplated by the treaty, to wit, the territory of the Republic.

Under the construction of Article XIII contended for by Panama the right of that Republic to tax the goods in question depends upon the ownership of the property without regard to the place of final destination; if the goods are the property of the United States they enter free and remain exempt from tariff imposts so long as they continue to be the property of the United States; if, however, the United States parts with the ownership the sovereignty of Panama may impose on said goods the customs duties prescribed by the laws of that Republic.

If the Republic of Panama is authorized to exercise sovereign powers in the Canal Zone, and the sovereign right to impose customs duties is restrained only by the fact of ownership by the United States, it would follow that if the United States transferred the ownership of property deposited in the Canal Zone such property would be subject to said right, whether it remained in the Zone or not. But said Article XIII expressly declares that the right to impose customs duties on such property is to be exercised in the event only that "such articles are disposed of for use outside the Zone and auxiliary lands granted the United States and within the territory of the Republic."

Clearly the exercise by the Republic of Panama of the sovereign right to impose customs duties on goods of the character under consideration is dependent upon two facts: First, that the goods are owned by some one other than the Government of the United States; second, that the goods are to be used outside the Zone and within the territory of the Republic of Panama by some one other than the United States.

A careful examination of the provisions of Article XIII discloses that they combine definite description of specific articles and indefinite classification of property in general.

The article under consideration (XIII) reads as follows:

"The United States may import, at any time, into the Zone and auxiliary lands, free of customs duties, imports, taxes, or other charges, and without any restrictions, any and all vessels, dredges, engines, cars, machinery, tools, explosives, materials, supplies, and other articles necessary and convenient in the construction, maintenance, operation, sanitation, and protection of the canal and auxiliary works, and all provisions, medicines, clothing, supplies, and other things necessary and convenient for the officers, employees, workmen, and laborers in the service and employ of the United States and for their families."

Read by the light of contemporaneous history, it is difficult to see how this article can be considered as relating to the exercise of authority anywhere except in the territory of the Republic of Panama.

That the grant accomplished by the treaty was a grant of land and sovereign right thereover, and not a mere concession or privilege, is shown by the granting clauses and also by the references to the grant in subsequent clauses of the treaty; for instance, Article XIII employs the expression "outside the Zone and auxiliary lands granted to the United States and within the territory of the Republic."

In support of the contention advanced by the Government of the Republic of Panama, you quote Article IV of the proposed treaty with Colombia. The first stipulation of that article is as follows:

"The rights and privileges granted by the terms of this convention shall not affect the sovereignty of the Republic of Colombia over the territory within whose boundaries such rights and privileges are to be exercised."

No such provision as the foregoing appears in the convention between the United States and the Republic of Panama; on the contrary, Article III of the convention with Panama provides that—

"The Republic of Panama grants to the United States all the rights, powers, and authority within the Zone * * * which the United States would possess and exercise if it were the sovereign, * * * to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, or authority."

This stipulation is plain and its purpose manifest. If the powers of sovereignty are to be exercised in that territory the right to exercise them belongs to the United States.

Permit me to call your attention to certain official acts of the Government of the Republic of Panama which evidence that the legislative, executive, and judicial branches of that Government have heretofore accepted and acted upon the theory that the convention of November 18, 1903, conveyed the territory of the Canal Zone and sovereign jurisdiction thereover to the United States.

The constitution of the Republic of Panama was formulated during the time the treaty between the United States and Panama was pending before the Senate of the United States. The constitution was adopted on February 13 and proclaimed February 15, 1904. The Senate recommended the ratification of the treaty on February 23, and the President carried out the recommendation on February 25, 1904.

The constitution of Panama described the boundaries of that Republic as follows:

"ART. 3. The territory of the Republic is composed of all the territory from which the State of Panama was formed by the amendment to the Granada constitution of 1853 * * * together with its islands and of the continental and insular territory. * * * The territory of the Republic remains subject to the jurisdictional limitations stipulated or which may be stipulated in public treaties concluded with the United States of North America for the construction, maintenance, or sanitation of any means of interoceanic transit."

What is meant by "jurisdictional limitations" if it were intended that the pending treaty should convey nothing but rights of property? Why was this limitation placed upon the extent of the national domain, if the United States was to be a mere concessionaire subject to the jurisdiction of the Republic of Panama?

The legislative branch of the Government of the Republic of Panama has recognized the right of the United States to exercise the sovereign authority to regulate foreign commerce with the territory of the Zone and has enacted two statutes with reference to such exercise of authority by the United States.

Law No. 65, enacted by the National Assembly of Panama on June 6, 1904, "conferring certain authority upon the Executive," is as follows:

"ARTICLE 1. Authority is given to the Executive to reduce, as may be convenient, those duties, the collection of which, at the rates established by the present law, ordinances, or decrees, would be prejudicial to commerce and to the public because of great differences there might be between them and those established by the United States Government for the Canal Zone.

"ART. 2. Authority is also given to the Executive to enter into an agreement with the Government of the United States respecting the rates of duties to be collected in the Canal Zone and the cities of Panama and Colon: *Provided, however*, That the said duties shall be uniform throughout the territory named, which agreement shall remain in force until annulled by the National Assembly."

Your attention is directed to the fact that the foregoing act of the National Assembly of Panama was enacted eighteen days prior to the date of the order of the President of the United States opening the territory of the Canal Zone to commerce and establishing customs-houses therein.

Law No. 88, enacted by the National Assembly of Panama on July 16, 1904, provides as follows:

"ART. 23. The Executive is authorized to reduce the slaughterhouse duty on cattle killed in the districts of Panama, Colon, and Bocas del Toro when the fiscal system to be introduced into the Zone ceded to the United States, in his opinion, requires it."

It can not escape observation that the legislative branch of the Government of the Republic of Panama by legislative enactment declared the Zone to be "ceded to the United States," and dealt with accordingly.

The executive branch of the Government of the Republic of Panama, also, has recognized the right of the United States to exercise the powers of sovereignty in the Canal Zone. By July 17, 1904, His Excellency the President of that Republic officially advised the governor of the Canal Zone as follows:

REPUBLIC OF PANAMA PRESIDENCIA,
Panama, July 17, 1904.

Maj. Gen. GEO. W. DAVIS,
Governor of the Canal Zone, Present.

DEAR SIR: I have the pleasure to inform you that I am fully authorized by law recently enacted by the National Assembly, to reduce or increase our duties and taxes accordingly with the rates which your Government shall establish at the Canal Zone.

Yours, truly,

M. AMADOR GUERRERO.

To carry out the suggestion contained in the foregoing letter and to enable the executive branch of the Government of the Republic of Panama to pursue the course obviously intended and provided for by the National Assembly of Panama, it was necessary for the United States to make known what duties and taxes would be levied and collected in the Canal Zone. Whereupon the President of the United States directed the issuance of the order of June 24, 1904, of which complaint is now made.

Conclusive, as to the right of the United States to exercise sovereign jurisdiction in the Zone, is the fact that upon the arrival of Maj. Gen. George W. Davis, whom the President had appointed governor of the Canal Zone and delegated to administer the government of said territory, all the officials of the Republic of Panama ceased to exercise any authority respecting the administration of government in that territory, the soldiers and police of that Republic stationed in the territory were withdrawn, the officers of all branches of government stationed in the territory surrendered their offices and were superseded by appointees of the United States.

The withdrawal from the Zone of the officials of the Republic of Panama was pursuant to an order issued by the secretary of state and foreign affairs of that Republic, upon the signing of the agreement respecting the boundary line between the Zone and the cities of Colon and Panama. The order was dated June 17, 1904, and reads as follows:

"GOVERNOR, Colon:

"Districts of railway line are comprised within Canal Zone and from to-day authorities and public employees in said Zone cease in their functions as members of the Government of the Panama Republic, according to convention signed yesterday. Advise you for your information.

"Attentive servant,

TOMAS ARIAS."

Upon the assumption of governmental authority over the Zone by the United States it became important that the line of separation between the Zone and the Republic of Panama, especially that separating the Zone from the towns of Panama and Colon, should be ascertained and declared. Major-General Davis, governor of the Zone, on behalf of the United States, and his excellency Tomas Arias, secretary of government and foreign affairs, and Ramon Valdez, attorney-general of the Republic of Panama, on behalf of that Government, entered into and signed a provisional agreement as to such demarkation of boundaries on June 15, 1904.

This agreement was duly published in the Gaceta Oficial of the Republic of Panama. The following extracts are quoted from that publication:

"Whereas * * * it is necessary that the extent and boundaries of the territory ceded to the Government of the United States by the Republic of Panama under the terms and provisions of said convention shall be provisionally agreed.

"SECTION 1. The limits of the Canal Zone, including lands under water and islands ceded * * * delivery of which lands, waters, and islands has been made by Panama and possession of which has been taken by the United States are indicated and shown on the attached map * * * and said indicated boundary, or line of division, between the territory ceded by the Republic of Panama to the United States for canal purposes.

* * * * *

"That the entrance channel of the Panama Canal through said harbor of Colon * * * is hereby declared to be a part of the Canal Zone, under the exclusive jurisdiction of the United States."

It is manifest that at the time this agreement was signed both the secretary of state and the attorney-general of the Republic of Panama considered that the rights of the United States in the Canal Zone were something more than those of a private concessionaire or lessee.

The judicial branch of the Government of the Republic of Panama has determined the question as to which government possesses sovereignty over the Canal Zone in favor of the United States. The question was presented by numerous cases of criminal offenses committed in the territory of the Zone since the transfer. The courts of Panama held that they are without jurisdiction and transmitted the papers to the foreign office of their government for transmission of the case and the person of the accused to the Zone authorities. From the correspondence in a large number of instances the following are selected:

Etienne Lamour was arrested, charged with the offense of assault and battery, committed at Emperador on June 5, 1904. The papers were transmitted to the second circuit court, one of the courts of the Republic of Panama, and submitted to the fiscal for report. The fiscal recommended that, as Emperador is situated in the Canal Zone, the court lacked jurisdiction, and therefore the papers should be transmitted to the secretary of justice for submission to the proper American authorities. The papers were so transmitted to the secretary of justice, who returned them to the court with a statement that the question be decided by the court "as the transfer of sovereignty in the districts of the railroad line has been officially communicated."

The letter of the secretary of justice is as follows:

[Republic of Panama, national executive power, department of public instruction and justice.]

DIVISION OF JUSTICE, No. 423,
Panama, June 30, 1904.

To the Second Circuit Judge in Criminal Matters, City:

I return to you the proceedings and papers you sent to this office with note No. 275 of the 26th instant, tending to show that Etienne Lomour is guilty of the offense of assault and battery.

This office abstains from deciding what should be done with the said proceedings, as it considers that you are the one that should do so, as the transfer of sovereignty in the districts of the railroad line has been officially communicated.

God preserve you.

JULIO I. FERREGA.

THIRD CIRCUIT COURT,
Panama, July 12, 1904.

As by reason of the delivery of the Canal Zone the jurisdiction which the judges of this circuit exercised over the districts of Emperador and Gorgona has ceased, the undersigned can not continue to take cognizance of this matter. Therefore let these proceedings be sent to the secretary of government, through the secretary of public instruction and justice, in order that he may transmit them to the North American authority competent to take cognizance of the case in question.

Let it be notified and recorded.

ALFONSO FABREGA, Judge.
RAFAEL BENITEZ, Secretary.

Another case proceeded as follows:

Victor Guillot, a French citizen, was accused by his employer of stealing at Culebra on May 5, \$65 gold, \$4 in American bank notes, and about \$10 in silver. Preliminary investigation was conducted by the police inspector of Culebra, and showed that the money was stolen from the pockets of the complainant by cutting through them while he was asleep. The papers were transmitted by the police inspector to the first circuit court for criminal matters of the Republic of Panama, and thence to the second circuit court for criminal matters; they were referred to the fiscal of the latter court, who reported that the hamlet of Culebra was situated within the provisional demarcation of the Canal Zone, and that the circuit judge lacked jurisdiction, and that the papers should be transmitted to the secretary of public instruction and justice for submission to the proper American authorities.

The papers were transmitted by circuit judge to superior judge for decision. The fiscal of the superior court recommended the transmission of the papers to the department of foreign affairs and that the accused be held subject to said secretary's orders, which recommendation was approved by the superior judge.

The secretary of government and foreign affairs for the Republic of Panama transmitted the papers to the governor of the Canal Zone in a communication reading as follows:

DEPARTMENT OF GOVERNMENT AND FOREIGN AFFAIRS,
Panama, July 9, 1904.

MR. GOVERNOR: I have the honor to transmit to you herewith the record of the preliminary proceedings instituted against Victor Guillot for robbery committed within the jurisdiction of the Canal Zone, with the request that you issue the proper orders to have these preliminary proceedings duly continued.

I have to inform you, for such action as you may deem proper, that the accused Guillot is confined in the jail of this city.

With expressions of the highest consideration, I have the honor to be,

Your obedient servant,

TOMAS ARIAS.

Gen. GEORGE W. DAVIS,
Governor of the Canal Zone, City.

Raimundo Lizano was brought before the superior court at Panama, charged with the crime of theft, perpetrated in the territory of the Canal Zone. The case was sent to the first circuit court for criminal matters. The decision of that court was as follows:

THIRD CIRCUIT COURT,
Panama, July 22, 1904.

Whereas the crime involved in these proceedings was committed on territory of the Canal Zone, where the undersigned has no jurisdiction, with the concurrence of the fiscal, it is decided that these proceedings be sent to the secretary of state for transmission to the proper person.

Let it be communicated and recorded.

ALFONSO FABBAGA, *Judge.*
RAFAEL BENITEZ, *Secretary.*

The United States at all times since the treaty was concluded has acted upon the theory that it had secured in and to the Canal Zone the exclusive jurisdiction to exercise sovereign rights, power, and authority.

On April 28, 1904, Congress enacted an act entitled "An act to provide for the temporary government of the Canal Zone at Panama, the protection of the canal works, and for other purposes."

Said act provided as follows:

"Sec. 2. * * * All the military, civil, and judicial powers, as well as the power to make all rules and regulations necessary for the government of the Canal Zone, and all the rights, powers, and authority granted by the terms of such treaty to the United States, shall be vested in such person or persons and shall be exercised in such manner as the President shall direct for the government of said Zone. * * *

Pursuant to the provision of said act, the President directed that all the governmental power in and over said Canal Zone should be vested in the Isthmian Canal Commission, to be exercised under the supervision and direction of the Secretary of War.

The power of legislation respecting the government of the Zone was conferred upon the Commission.

Maj. Gen. George W. Davis, U. S. Army, was appointed governor of the Canal Zone by the President and ordered to proceed at once to the Isthmus of Panama, and in the name of the President and for and on behalf of the United States, as the chief executive in the Canal Zone, to see that the laws are faithfully executed and maintain possession of said territory; he was also vested with pardoning power.

The President further designated what laws should be continued in force in the territory of the Zone, by what officials said laws should be administered, and provided for the temporary exercise of the judicial power.

The Isthmian Canal Commission, by the exercise of the legislative power vested in them, enacted laws for the organization and establishment of the executive and judicial branches of the government of the Canal Zone, the establishment and government of municipal subdivisions, and for the collection of revenues, a postal service, the sanitation of the Isthmus, quarantine of the ports, policing of the Zone, a penal code, and a code of criminal procedure, besides other enactments required for the proper administration of the government in the Zone.

In full confidence that it had secured the right to exercise all powers of sovereignty in the Zone, the United States paid to the Republic of Panama \$10,000,000 in gold and to the French Canal Company \$40,000,000. The Congress appropriated \$150,000,000 to complete the canal. The President appointed the Isthmian Canal Commission, and the work of construction was immediately entered upon. Agencies of government have been established in the Zone and the necessities of the social organism provided at the expense of the United States.

I note your reference to the exercise of the sovereign powers by the United States over the harbors constituting the Atlantic and Pacific entrances to the canal.

As understood by me, your contention is that whatever may be the authority of the United States in other parts of the Canal Zone, this Government is without authority at these two points (Cristobal and La Boca) for the reason that these points are within the harbors adjacent to the cities of Colon and Panama, and therefore excluded from the grant made by Article II of the convention.

For convenient reference, I quote a part of said article:

"The Republic of Panama grants to the United States in perpetuity the use, occupation, and control of a zone of land and land under water for the construction, maintenance, operation, sanitation, and protection of said canal of the width of ten miles, extending to the distance of five miles on each side of the centre line of the route of the canal to be constructed, the said zone beginning in the Caribbean Sea three marine miles from mean low-water mark and extending to and across the Isthmus of Panama into the Pacific Ocean to a distance of three miles from mean low-water mark, with the proviso that the cities of Panama and Colon and harbors adjacent to said cities, which are included within the boundaries of the zone above described, shall not be included within this grant."

A strip of land 5 miles wide on either side of the entrances to the canal would include all of the city of Colon and substantially all of the city of Panama. The Republic of Panama desires to retain sovereign jurisdiction over the inhabited portions of the territory of these municipalities, hence the exemption in the grant. In this connection attention is called to the fact that if the Republic of Panama intended to retain the right to exercise sovereign jurisdiction over the entire Zone, this exemption would have been unnecessary.

You will recall that when this convention was being considered by the United States Senate the opposition to its confirmation suggested the possibility that the Republic of Panama might advance, thereafter, the contention now presented. Thereupon the matter was brought to the attention of Mr. Banau-Varilla, the duly accredited representative of the Republic of Panama, by whom said convention was negotiated.

In response the representative of the Republic of Panama, by a letter dated January 19, 1904, advised the United States as follows:

"I do not hesitate, sir, to give you in my name and in the name of my Government the following explanation on the meaning of the clauses which have been deemed not sufficiently outlined by the committee of the senate:

"First. Harbors adjacent to the cities of Panama and Colon. The harbors adjacent to the cities of Panama and Colon (adjacent comes from adjacens—lying at the side of) are, in my understanding, the harbors in contact of said cities, and putting them in communication with the sea. These harbors are completely separated from and independent of the harbors of the canal or the harbors situated at its two entrances, and which ships going through the canal will have to use.

"The harbor at the Colon end of the canal is an interior harbor, made by dredging in the bay of Fox River, adjacent to the city of Christopher Columbus, and protected by a breakwater.

"The harbor adjacent to the city of Colon is constituted by a series of wharves built in the open sea without any artificial shelter. A ship lying in the Colon Harbor and leaving it to go into the canal harbor will have first to go into the open sea, and then pass the breakwater which protects the entrance of the canal harbor.

"At Panama the canal harbor is also an interior harbor, situated at La Boca, several miles from the wharf which forms the Panama Harbor, a wharf built in open sea like those of Colon. The very same thing may be said of the Panama as of the Colon harbors. Both are local harbors, strictly limited to the service of the respective townships and out of the way of the canal and its approaches to its entrance.

"There is not a shadow of probability that the harbor adjacent either to Panama or Colon will ever be used for anything but the local trade of the town, and therefore the United States will never necessitate to do anything in relation to the canal with any part of them."

The administration of the Government of Panama, being advised by Bunau-Varilla of this letter, wrote him as follows:

"YOUR EXCELLENCY: Most opportune indeed was your excellency's communication of January 19 to the secretary of state, dissipating, as it did, the new obstacles raised to prevent the prompt approval of the treaty by the American Senate.

"All the matters which your excellency mentions were at the same time discussed with the Hon. Mr. Buchanan.

"F. V. DE LA ESPRIELLA."

The foregoing correspondence being brought to the attention of the secretary of government and foreign affairs for the Government of Panama, he replied as follows:

"OFFICE OF THE SECRETARY OF GOVERNMENT

"AND FOREIGN RELATIONS,

"DEPARTMENT OF FOREIGN RELATIONS,

"Panama, August 23, 1904.

"SEÑOR MINISTER: I have before me your excellency's attentive communication, No. 23, of the 16th instant, wherein you refer to the letter which Mr. Bunau-Varilla addressed to Mr. Hay, Secretary of State, of the United States, on the 19th of January of the present year, with regard to the interpretation of certain clauses in the treaty of November 18, 1903, a copy of which your excellency was good enough to send me, and the existence of which I had forgotten. As was natural, I ordered that a search be made of the archives in this office for the missing document, and it was found, the original of which your excellency informs me will be presented to the minister plenipotentiary and envoy extraordinary of Panama in Washington."

The authorities of the Canal Zone report that for a limited period following the promulgation of the President's order establishing ports of entry at the harbors at the entrance of the canal said orders were acquiesced in by the Republic of Panama without protest. Several vessels were cleared from the port of Panama, in the Republic of Panama, for the port of Ancon (La Boca), in the Canal Zone, in which port the vessels were received by the American authorities.

In this connection attention is called to the following correspondence between the owners of the steamship *Loa* and the chief of the national customs service of Panama:

PANAMA, July 2, 1904.

The CAPTAIN OF THE PORT,
Chief of the National Customs Service, Panama:

Please certify below whether the steamship *Loa*, which entered this port on the 26th of June last, was authorized to proceed to the La Boca wharf.

Yours, etc.,

H. EHRMAN CO.

HEADQUARTERS OF THE NATIONAL CUSTOMS SERVICE.

Panama, July 2, 1904.

The writer, chief of the national customs service of Panama, certifies:

That the Chilean steamship *Loa* was duly received at 9 a. m. on the 26th ultimo, and was authorized to discharge and receive cargo where most convenient to do so. With regard to the observance of formalities in order to proceed to La Boca, this is a matter which pertains exclusively to the governor of the Zone, because that is American property.

As the boat was received by the Panaman authorities, it was natural that in order to enter and tie alongside of the wharves of the said port of La Boca, it was subject to comply with the formalities required by the authorities of that place (La Boca).

[SEAL]

LEONIDES PRETEL.

The United States learns with regret that the officials of the Republic of Panama are apprehensive that the course adopted by the United States will substantially reduce the revenues of that Republic. Permit me to express the belief that future developments will show such fear to be without foundation. The construction of the canal will cause a large increase in the population of the Zone and of the Republic. Vast expenditures of money will be made by the Commission in canal construction, which will be expended largely in the commercial centers of the country, to wit, Panama and Colon. This will occasion increased importations, with resulting increase of revenue to the Government exercising sovereign jurisdiction over those cities.

The United States has sought at all times to secure and preserve for the Republic of Panama sufficient means for adequate revenues. In this connection, permit me to call your attention to the fact that the proposed treaty with Colombia contained the following provision (Art. VIII):

"The ports leading to the canal, including Panama and Colon, also shall be free to the commerce of the world, and no duties or taxes shall be imposed, except upon merchandise destined to be introduced for the consumption of the rest of the Republic of Colombia, or the Department of Panama, and upon vessels touching at the ports of Colon and Panama and which do not cross the canal."

Under such a provision merchandise imported into the ports of Colon and Panama for consumption within those municipalities would have entered free of duty.

The convention between the Republic of Panama and the United States permits the Republic of Panama to impose customs duties on merchandise imported into those cities for consumption therein, as well as elsewhere in the Republic.

Your attention is directed to the fact that under the rule of law established by the United States Supreme Court, goods from the United States were entitled to free entry into the Zone as soon as the sovereignty of the United States permanently attached to the territory. (*Vide Dooley v. United States*, 183 U. S., 151; *Cross v. Harrison*, 16 Howard, 164.)

It was recognized that free entry into the Zone of goods from the United States might work a hardship on the trades people of the near-by cities of Panama and Colon, as the latter were obliged to pay customs duties to the Republic

of Panama. To meet this contingency, the order of June 24, 1904, regulating commerce with the Zone, provides as follows:

"The governor of the Canal Zone is authorized to enter into and carry out an agreement with the President of the Republic of Panama for cooperation between the customs service of the Canal Zone and that of the Republic of Panama to protect the customs revenues of both Governments and to prevent frauds and smuggling.

"The governor of the Canal Zone is hereby authorized to enter upon negotiations and make a tentative agreement with the President of the Republic of Panama respecting reciprocal trade relations between the territory and inhabitants of the Canal Zone and appurtenant territory and the Republic of Panama; also a readjustment of the customs duties and tariff regulations, so as to secure uniformity of rates and privileges and avoid the disadvantages resulting from different schedules, duties, and administrative measures in limited territory subject to the same conditions and not separated by natural obstacles. The governor shall report as to such negotiations and proposed agreement to the chairman of the Isthmian Canal Commission for submission and consideration by the Commission and such action by competent authority as may be necessary to render said agreement effective in the Canal Zone."

Admiral J. G. Walker, chairman Isthmian Canal Commission, advises this Department that although several attempts have been made by the authorities of the Canal Zone to initiate negotiations contemplated by the foregoing provisions of said order and by the provisions of laws Nos. 65 and 88 of the National Assembly of Panama, the authorities of the Republic of Panama decline to enter upon such negotiations. Permit me to express the hope that the Government of Panama will recognize the desirability of taking up this matter with the governor of the Canal Zone and ascertaining if a satisfactory solution of the existing discrepancies in customs duties and administration is attainable. The Government of the United States sincerely desires to effect such an arrangement on terms both just and generous to the Republic of Panama.

Accept, sir, the renewed assurances of my highest consideration.

JOHN HAY.

Message of President transmitting the first annual report of the Isthmian Canal Commission.

To the Senate and House of Representatives:

I transmit herewith the report of the Panama Canal Commission, accompanied by a letter of the Secretary of War, under whose supervision I have by Executive order placed the work of the Commission. I concur with the Secretary of War in the view that the present provision of the law by which the work of building the canal has to be done only through a body of seven members is inelastic and clumsy, and I certainly recommend a change, so that the President, who is charged with the responsibility of building the canal, may exercise greater discretion in the organization of the personnel, through whom he is to discharge his duty.

Actual experience has convinced me that it will be impossible to obtain the best and most effective service under the limitations prescribed by law. The general plans for the work must be agreed upon with the aid of the best engineers of the country, who should act as an advisory or consulting body. The consulting engineers should not be put on the Commission, which should be used only as an executive instrument for the executive and administrative work. The actual work of executing the general plans agreed upon by the Commission after reaching the conclusions of the advising engineers must be done by an engineer in charge, and we now have an excellent engineer. It is, in my judgment, inadvisable, therefore, to restrict the Executive's choice of commissioners to representatives of the Engineer Corps of the Army and Navy. The Commission should consist of five or, preferably, three members, whose respective duties, powers, and salaries should be assigned to them by the President, and who should be placed under the member of the Cabinet whom the President desires. Of these men the one appointed as administrator of the canal strip should also serve as minister to Panama.

THEODORE ROOSEVELT.

WAR DEPARTMENT,
Washington, January 12, 1905.

To the PRESIDENT:

I have the honor to submit herewith the report of the Isthmian Canal Commission, and to ask its transmission to Congress, in accordance with law. The report of the Commission is accompanied by two reports of Maj. Gen. George W. Davis, U. S. Army (retired), as governor of the Canal Zone, and also by a report of General Davis as a member of the Canal Commission. The matter of the last report was included in the report of General Davis as governor, but as the subjects treated of are hardly relevant to his duties as governor, it was deemed proper that that which related to the affairs of the canal generally should be submitted, to show General Davis's views as a member of the Commission, who was not present when the report of the Commission was framed and signed. It is not to be regarded as a minority report, but merely as a separate report of one member.

The report of the Commission sets forth what the Commission has done since its creation in May, 1904. On the whole, an examination will show that a very great deal of the work of organization, sanitation, and preparation to build the canal has been done. The chaotic condition of affairs in the Isthmus, due to the time which has elapsed since the New French Canal Company ceased to work, the lack of care of the plant and equipment, and the rapid growth of vegetation in that soil and climate, all brought about such a state of confusion that it will require several months yet to restore the condition of the work of canal building to that of a going concern. Substantial progress has been made in the sanitation of the Canal Strip, and excellent results have been shown in the health of the 500 marines who have been stationed on the Strip for more than a year. There has been decided progress in the verification of the data obtained by the French engineers, and in addition, new data necessary to enable the engineers of the Commission to determine the proper plan for the canal.

On October 19, 1904, I received from you the following letter:

WHITE HOUSE,
Washington, October 18, 1904.

SIR: By Executive order of May 9, 1904, I placed under your immediate supervision the work of the Isthmian Canal Commission, both in the construction of the

canal and in the exercise of such governmental powers as it seemed necessary for the United States to exercise under the treaty with the Republic of Panama in the Canal Strip. There is ground for believing that in the execution of the rights conferred by the treaty the people of Panama have been unduly alarmed at the effect of the establishment of a government in the Canal Strip by the Commission. Apparently they fear lest the effect be to create out of part of their territory a competing and independent community which shall injuriously affect their business, reduce their revenues, and diminish their prestige as a nation. The United States is about to confer on the people of the State of Panama a very great benefit by the expenditure of millions of dollars in the construction of the canal; but this fact must not blind us to the importance of so exercising the authority given us under the treaty with Panama as to avoid creating any suspicion, however unfounded, of our intentions as to the future. We have not the slightest intention of establishing an independent colony in the middle of the State of Panama, or of exercising any greater governmental functions than are necessary to enable us conveniently and safely to construct, maintain, and operate the canal under the rights given us by the treaty. Least of all do we desire to interfere with the business and prosperity of the people of Panama. However far a just construction of the treaty might enable us to go, did the exigencies of the case require it, in asserting the equivalent of sovereignty over the Canal Strip, it is our full intention that the rights which we exercise shall be exercised with all proper care for the honor and interests of the people of Panama. The exercise of such powers as are given us by the treaty within the geographical boundaries of the Republic of Panama may easily, if a real sympathy for both the present and future welfare of the people of Panama is not shown, create distrust of the American Government. This would seriously interfere with the success of our great project in that country. It is of the utmost importance that those who are ultimately responsible for the policy pursued should have at first hand as trustworthy information as can be obtained in respect to the conditions existing in Panama and the attitude and real interest of the people of that State. After a conference with the Secretary of State and yourself, I have concluded that it will be of great advantage if you can visit the Isthmus of Panama in person and hold a conference with the President and other governmental authorities of the Republic of Panama. You are authorized in doing this to take with you such persons as you desire, familiar with the conditions in the Isthmus, who may aid you with their counsel. The earlier you are able to make this visit the better. The Secretary of State will instruct the United States minister at Panama to render you every assistance in his power, and the governor of the canal strip, General Davis, will, of course, do the same thing. You will advise the President of the Republic what the policy of this Government is to be, and assure him that it is not the purpose of the United States to take advantage of the rights conferred upon it by the treaty to interfere with the welfare and prosperity of the State of Panama or of the cities of Colon and Panama. You will make due report of the result of your visit on your return.

Very truly, yours,

THEODORE ROOSEVELT.

THE SECRETARY OF WAR.

and in accordance with the directions of this letter I visited the Isthmus of Panama, and after negotiations covering perhaps ten days issued in your name an Executive order embodying the terms which were satisfactory to you and to the authorities in Panama. That Executive order of December 3, 1904, supplemented by the order of December 6, 1904, which was explanatory only of the order of December 3, 1904, are appended hereto as "Exhibit A"

The first section of the order limits the importations of merchandise which can be entered at the terminal ports of the canal and the only ports of the Zone to the merchandise which, by Article XIII of the treaty between the Republic of Panama and the United States, the United States is entitled to bring into the Zone free of taxation for use in the construction of the canal, and to merchandise in transit across the Isthmus for a destination without the limits of the Isthmus, and, in addition, coal and crude mineral oil for fuel purposes, which it was thought wise to insist upon bringing free into the terminal ports, in order that there might be established in those ports facilities for coaling seagoing vessels.

The purpose of these limitations upon the importations into the canal ports was to compel the entry at the ports of Panama and Colon of all duty-paying goods, so that the revenues from all goods that would not be entered free should go into the treasury of the Republic of Panama. In order, however, that these limitations should not lead to the imposition by the Republic of Panama of too high duties on duty-paying goods entering the Zone, a proviso was inserted in the section reducing from 15 per centum to 10 per centum the *ad valorem* duty on importations into Panama. The customs law of Panama provides for special taxes on cattle, tobacco, cigars, cigarettes, matches, and salt. With the exception of these articles, it divides imported articles into three classes; one, a free list; another, liquors, spiritous, malt and vinous, upon which varying duties according to the character of the liquor are imposed; and a third, or the residuum clause, upon which the import duty is 15 per centum *ad valorem*.

I should say here that it may turn out that 10 per centum *ad valorem* will not produce sufficient income for the running of the Panama Government, and if so, I think it would be wise to permit a restoration of the 15 per centum duty. The reduction is quite popular among the merchants of Panama and Colon, but it may be that the needs of the Government are greater than can be met by the reduced rate. We found that there was a monopoly on tobacco, cigars, and cigarettes and upon opium. We were not concerned to prevent the Republic from levying a heavier tax than is now laid on liquors, alcohol, and opium. The monopoly on opium could be prevented from doing harm in the Canal Zone by a law absolutely forbidding its sale in the Zone. The monopoly upon tobacco, cigars, and cigarettes, which are included in two different concessions expiring early in 1906, was granted by the Republic of Colombia before the separation, and the concessions were declared vested rights in the new constitution. That instrument provides, however, that no further monopolies shall be granted and that these shall continue in force only until their expiration. The agreement excluded any right on the part of the Republic of Panama to increase the duty on tobacco, because thereby

the extent of the present monopoly, or its oppressive character, might be increased.

The form of monopoly is this: The concession is put up for public bidding. The man who bids the largest lump sum is permitted to import his tobacco, cigars, or cigarettes, as the case may be, free, the concession containing the stipulation that to all other people the duties on the importation of these articles shall be charged at a certain rate. Now, if the Government should increase this rate it would make the monopoly much more valuable, because it would enable the monopolist to increase his price without fear of competition. We found also that the consular fees upon goods imported into the Republic were very high; that they had been recently doubled. Accordingly we stipulated for a reduction of these consular fees, which would be a burden upon the Canal Zone as well as the Republic, to 50 per cent of the present rate. As it was recognized that the compensation to Panama consuls would be reduced by a loss of fees on manifests of vessels landing at Ancon and Cristobal, canal ports, in lieu of this loss it was agreed that 10 per cent of the present consular fees might be added to the 50 per cent to which the reduction had been made, making, therefore, 60 per cent of the present consular fees to be charged. The proviso also stipulates that the goods imported into the Canal Zone through the ports of the Republic shall have no other tax than that imposed under the customs law.

Section 2 is an arrangement by which vessels cleared for and entering the terminal ports of the canal may use such facilities as there are in the corresponding ports of the Republic and vice versa. One of the provisos, however, contains the provision that nothing shall affect the complete administrative, police, and customs jurisdiction of the two governments over their respective ports and harbors.

Section 3 provides that manifests, invoices, and other documents in respect to vessels and cargoes cleared and consigned for the ports of the canal, or for the ports of the Republic, shall be made by the officials of the proper government.

Section 4 provides for complete free trade between the Canal Zone and the Republic of Panama, both of persons and of merchandise, and repeals the operation of the Dingley tariff in the Canal Zone.

Section 5 puts into force a provisional agreement of delimitation between the Zone and the Republic, signed by Governor Davis and the authorities of the Canal Zone, and adds to that delimitation a definition of the boundary of the harbor of Ancon which had not theretofore been fixed.

Section 6 provides that the order shall be inoperative unless the Republic of Panama shall grant complete sanitary and quarantine control over the ports of Panama and Colon. This has now been expressly granted by decree of the Republic.

Section 7 changes the present system of posts only to the extent that the stamp to be used shall be a stamp of the Panama Republic, crossed with the words of the Canal Zone, and that this shall be paid for by the postal authorities of the Canal Zone to the Republic—this on condition, however, that the postal rates between the United States and the Republic shall be reduced to 2 cents. Then there are special provisions as to the carrying of Government mail free by each Government.

Section 8 provides for the execution of the currency agreement made in Washington June 20, 1904, by the President of the Republic, and for the abolition of the tax of 1 per cent on gold coin exported from the Republic of Panama. This was necessary to make it operate properly. The currency agreement puts in force a system similar to the one in the Philippine Islands, by which a Panama peso of the intrinsic value of 40 cents is declared equal in value to 50 cents gold, and is maintained at that value by the Government of Panama with the assistance of the United States authorities. An export tax on gold, however, would interfere with the free exchange of gold between Panama and the countries of the world, and so would make the maintenance of the parity with gold more difficult, for it would always increase the cost of exporting gold from Panama at least 1 cent on the dollar.

The provision for securing the parity in the agreement is that the Republic of Panama shall deposit 15 per cent of its issue of silver pesos in a New York bank for the purpose of maintaining the parity, and that the seigniorage on all subsequent pesos, which can, by the agreement, only be coined at the instance of the United States authorities, shall be used for the same purpose. As the coinage does not exceed one million and a half gold, and the United States has agreed to assist in the maintenance of the parity by drafts on New York, I do not see that the United States would run any particular risk if it united with the Government of Panama in an agreement to redeem all Panama currency of the new issue by the payment of New York sight drafts in gold at par and a maximum of exchange equal to the cost of exporting gold from Panama to New York—that is, the cost of transportation and insurance. In that way it seems to me that the exchange on New York could always be kept down to the cost of the exportation of gold, and this would in effect maintain the parity. With your permission, after a conference with some experts on coinage, I shall issue an order to the Commission giving some details as to the course which they should take in this matter of preserving the parity and preventing the enormous fluctuations of exchange that so greatly impede the legitimate business in the Isthmus, and which would seriously interfere with the monetary arrangements of the Canal Commission in the construction of the canal.

Section 9 recognizes the right of the Republic of Panama to permit citizens of Panama residing in the Canal Zone to vote at voting places outside of the Zone.

Section 10 provides for the construction of a road partly in and partly out of the Zone, from the city of Panama to the northern limits of the Zone. The road will be about 5 miles in length in the Zone and 1 mile leading into the city of Panama. This is to be done in consideration of the waiver by the President of the Republic of Panama of a claim which had heretofore been made against the United States for compensation for use of the municipal buildings in the Zone.

Section 11 provides that the United States shall provide and maintain and conduct a hospital or hospitals either in the Canal Zone or in the Republic for the treatment of persons insane or afflicted with leprosy and the indigent sick, to which the Republic of Panama may have the privilege of sending such patients as it may desire from the Republic upon the payment of a rate per capita to be fixed by the Secretary of War.

Section 12 provides that the operation of the order and its enforcement on the one hand, or a compliance with its conditions on the other, shall not be taken as a delimitation, definition, restriction, or restrictive construction of the rights of either party under the treaty between the United States and the Republic of Panama.

Stated shortly, the arrangement secures to Panama, first, the payment into its treasury of all import duties upon all goods imported into the Isthmus, whether into the territory of the Republic or the Zone, which by law pay duty; second, it provides for and recognizes the existence of terminal canal ports for which any vessel at any part of the world may be cleared. I was at first inclined to think that we might give up the ports, but an examination of the situation made it perfectly clear to me that the existence of canal ports, one at each end of the canal, was absolutely necessary in the construction, maintenance, and protection of the canal, and that if there was a complete interchange of facilities between the ports of the Republic and the ports of the canal, this is all that we could afford to concede.

In the matter of posts, having secured a reduction of the postage between the United States and the Isthmus to 2 cents, it seemed wise to provide for the use of Panama rather than United States stamps, and by securing to Panama as profit 40 per cent of the gross receipts by the Canal Zone authorities for postal purposes. This may be too large a concession, as far as the United States is concerned, because the posts will probably be operated at a loss within the Zone, but the reduction of the postage between the United States and Panama is a benefit of very considerable importance secured to the people of the United States. There is a general impression in the United States even now that the rate to Panama is 2 cents. Minister Barrett said that he

was in receipt of a great many letters stamped with 2-cent stamps, on each of which letters he had to pay an additional 3 cents. The acquiescence in the provisional delimitation of the Canal Zone was an important concession, because, while the authorities of the Republic had entered into the agreement, there was a disposition to exercise their right to recede from it.

The securing of definite limits for the harbor of Ancon in this delimitation agreement was also an important matter. The execution of the currency agreement, which, after the difficulties had arisen, had lain dormant, was important, especially in the financial operations of the United States in the construction of the canal. The construction of the highway and the provision in respect to the hospital explain themselves. The recognition that a citizen of the Republic of Panama may reside in the Canal Zone and not lose his rights as a citizen to the exercise of the elective franchise in the Republic it was wise to make. The truth is that while we have all the attributes of sovereignty necessary in the construction, maintenance, and protection of the canal, the very form in which these attributes are conferred in the treaty seems to preserve the titular sovereignty over the Canal Zone in the Republic of Panama, and as we have conceded to us complete judicial and police power and control over the Zone and the two ports at the end of the canal, I can see no reason for creating a resentment on the part of the people of the Isthmus by quarreling over that which is dear to them but which to us is of no real moment whatever.

The supplementary order was made merely to clarify certain doubts in the minds of some of the Panama officials and to make certain that the consignments of merchandise to Panama and Colon might be carried in steamers cleared for and entered at canal ports, for it would be intolerable to require that a steamer should limit its cargo only to articles which might be entered free at the canal ports.

The Government and merchants of Panama regard with considerable anxiety the construction which is to be put up on Section XIII of the treaty, which reads as follows:

The United States may import at any time into the said Zone and auxiliary lands, free of custom duties, imposts, taxes, or other charges, and without any restrictions, any and all vessels, dredges, engines, cars, machinery, tools, explosives, materials, supplies, and other articles necessary and convenient in the construction, maintenance, operation, sanitation, and protection of the canal and auxiliary works, and all provisions, medicines, clothing, supplies, and other things necessary and convenient for the officers, employees, workmen, and laborers in the service and employ of the United States and for their families. If any such articles are disposed of for use outside of the Zone and auxiliary lands granted to the United States and within the territory of the Republic, they shall be subject to the same import or other duties as like articles imported under the laws of the Republic of Panama.

After a conference with Admiral Walker, General Davis, and Mr. Wallace, the chief engineer, I became convinced that we should restrict

the application of Section XIII, so far as it affects food supplies, articles of clothing, and merchandise for the use of officers and employees of the Government, of the Canal Commission, and of the contractors engaged in work on the canal, and in the Zone, to those who were brought from the temperate zone, who could not obtain from the ordinary stores in the Isthmus the food supplies, clothing, and other things to which they were accustomed and which they regarded as essential to their living. It did not seem wise for the Commission itself or through its contractors to establish a commissary for the feeding of the ordinary day laborers on the canal. They must necessarily come from a climate like that of the Isthmus, and must be used to the food which the common people of the Isthmus use. The Commission should, however, hold *in terrorem* over the merchants of the Republic and the Zone the possibility that a commissary for the sale of food and other merchandise to the common laborers may be established if the merchants do not furnish food and clothing to such laborers at a reasonable rate.

Of course, the free importation of machinery and mechanical supplies, live stock and forage, to be used in the construction of the canal, under this section goes without saying. The real point of discussion is as to the extent to which the United States should maintain a commissary and undersell and drive out of competition the merchants of the Zone and of the Republic. My strong impression is that the limitation above indicated is satisfactory to everyone concerned, and it has been embodied in an Executive order of January 7, 1905, a copy of which is appended hereto, marked "Exhibit B."

The arrangement agreed upon between the two Governments seems to be equitable and satisfactory. I can not speak too highly of the broad, liberal, statesmanlike spirit in which President Amador, Minister of State Gamaria, and Minister Obaldia approached the questions of difference between us and of the confidence they manifested in the friendly interest of the United States in the welfare of the new Republic.

An important question of policy is yet to be determined. If the Isthmian Canal Commission are not bound by any restriction of Congress as to where they shall purchase machinery, material, and supplies, then it would seem to be their duty to construct the canal as cheaply as possible, and so to buy what they need where they can get it cheapest. This, however, is certain to produce, every time that a large contract is awarded to a foreign manufacturer or dealer, an outcry on the part of the American unsuccessful competitors. If Congress approves the policy of favoring American manufacturers and dealers, even if it increases the cost of the construction of the Canal, then it seems to me only just that it should declare this policy by law and lay down a rule which the Commission can easily follow.

The question of labor is not free from difficulty. The French Panama Company did much of its work with Jamaica negroes, and a large part of the 3,000 employees now engaged by the Commission is composed of Jamaicans. But it will not be easy to secure all the Jamaican laborers that will be needed. The governor of Jamaica, Sir Alexander Swettenham, whom I visited at Kingston, was unwilling to consent to our taking 10,000 laborers from the islands unless we deposited £5 sterling per laborer with the island government to meet the burden which his leaving the island would probably throw on his parish under the poor law of the island for the support of those dependent on him. He also insisted that we should agree to pay the expenses of the return of each laborer, whether he was satisfactory or not, and whether he abandoned the work in violation of his contract or not. It is probable, however, that Jamaica laborers will come voluntarily in considerable numbers to the Isthmus, because there are two direct lines between Kingston and Colon, the fare is only \$5 a person, and the wages paid in the Canal Zone are double those paid in Jamaica. Indeed, the governor informed me that about 6,000 Jamaicans were leaving the islands annually to work in Panama and in Central America. It is hoped that satisfactory labor may be obtained in Porto Rico, and I have recommended to the chairman that 1,000 Porto Ricans be transported to the Isthmus as an experiment.

The governor of Porto Rico, Hon. Beekman Winthrop, thinks that the labor of Porto Ricans will prove to be satisfactory, and is now investigating the matter with a view to recommending the best method of selection. Offers have also been made to the Commission to try a thousand Chinamen and a similar number of Japanese under contract for the purpose of determining the best way to secure the force needed.

Without criticising the Commission, which I think has made as much progress in the necessary preparation for the building of the canal as could be expected in the short time since its appointment, it is not improper for me to say that under the present law the plan for building the canal is unelastic. The evident purpose of the act to require the President to act through the Commission as a body and not to distribute work and responsibility to the members severally, and to fix the salaries of the individual members according to the work which they are to do, renders the instruments with which the President is to build the canal less flexible than they ought to be. If he were able to designate of the Commission certain members to have charge of the executive work, and others to act as consulting engineers in an advisory capacity, and other members of the Commission to discharge other necessary functions, he could construct a machine in the form which experience might indicate to be the most useful.

Another subject for consideration is the disposition of the Panama Railroad. In the purchase of the property of the New French Panama

Canal Company, the United States acquired 68,887 shares out of a total of the 70,000 shares which constitute the capital stock of the company. In October last the chairman of the Isthmian Canal Commission, with my approval, purchased out of the funds available for the use of the Commission, 100 additional shares, so that there remain outstanding of the shares of the capital stock not owned by the Government, 1013 shares. It is, of course, obvious that as long as there is private ownership of any of the shares of the railroad company, the railroad must be operated for the benefit of all the stockholders to secure the greatest profit to the owners of the stock; and that directors elected by the stockholders are trustees not for the United States only but also for the private persons owning the stock, and that the policy of the directors must be that which will inure to the greatest benefit of all the stockholders.

The United States purchased the shares in the company for the purpose of using the railroad to assist it in the construction of the canal, and it is quite evident that this purpose will be largely defeated unless the representatives of the United States may use the railroad without let or hindrance in canal construction. Of course, under the franchise authorizing the operation of the railroad company, there is an obligation upon those who run the railroad and use the franchise to perform the duty of a common carrier. It is entirely feasible fully to perform such a duty and still to use the railroad as an auxiliary instrument in the construction of the canal; but there will be great awkwardness in fixing the proper charge against the Canal Commission for the constant use of the railroad for canal purposes and also such necessary friction if the road is to be run by a company not under the direct control of the chief engineer of the canal.

It would be much easier, in my judgment, if in some way the private owners of the stock could receive a reasonable dividend on their stock, and the road could be placed wholly under the control and use of the Government of the United States. Now, two methods suggest themselves: One is, that of condemning the stock and paying what is a reasonable price therefor to the owners. I am inclined to think that this method is a possible one and that the condemnation proceeding under a statute of the United States might be pursued in the State of New York, which incorporated the company and where its chief office now is. It would require special legislation by Congress.

The second is to use the power that the United States has to elect directors who will lease the railroad to the Isthmian Canal Commission at a rental which will involve the payment of the fixed charges upon the railroad and a reasonable dividend upon all the stock. Of course the dividend earned upon the stock belonging to the United States need not be paid. In this way the Isthmian Canal Commission will become the lessee of the railroad, and, provided it does not injure the

property and discharges the obligations of the original company under its franchise, can use the railroad for the purposes of constructing the canal without embarrassment. There is nothing to prevent the Commission from operating the railroad for commercial purposes, and so discharging the duties imposed upon the railroad company under the franchise if given proper authority by Congress. I am advised, though I have not myself examined the statutes, that the general statutes of New York would permit the leasing of the railroad.

In this way the three essential ends could be attained; a proper and reasonable dividend upon their stock would be paid to the minority stockholders, the public service enjoined by its franchise upon the company would be discharged, and the railroad could be made to serve completely the purpose for which the stock was bought by the Government as part of the plant for the construction of the canal. It is possible that a third method might be adopted which would not involve a lease, but a traffic contract between the railroad company and the Commission which should permit the management of the railroad company by officers of the Commission and should secure the three things necessary as above mentioned.

The present management of the railroad has been subjected to criticism by General Davis in his report. It is unnecessary for me to comment on this, except to say that whatever may have justified the rates charged by the railroad, the salaries paid by it, and the character of its corporate organization, and the expenses of the office in New York, certainly for the purposes and under the control of the United States, radical changes must be made. The proper time for these changes would seem to be on the 1st of April, when the annual election takes place, and when a new board of directors may be elected. It is true that the members of the present Canal Commission are all directors of the railroad now, but it has not seemed wise to make the radical changes needed until the end of the year for which the officers were elected at the salaries then fixed. Time is needed to determine the proper plan for the reorganization of the railroad.

There is a contract between the railroad company and the Pacific Mail Steamship Company, which gives to the Pacific Mail Steamship Company the exclusive privilege of issuing through bills of lading on business from San Francisco to New York. I think that this contract is invalid under the laws of Colombia and the laws of Panama; but whether this be true or not I am very clear that the Government of the United States can not consistently, and with a due regard to its own public policy, make itself a party to such a contract. I have, with your approval, directed the members of the Isthmian Canal Commission to see to it that as the majority of the directors of the railroad company they order sent to the Pacific Mail Steamship Company a notice of the intention of the railroad company to withdraw

from the contract at the end of six months, in accordance with its terms.

Whether it will be wise to make a new contract, eliminating the objectionable features of the old contract, with the Pacific Mail Steamship Company, is a matter for further consideration. The Panama Railroad Company owns three steamers on the Atlantic side, which do a business between New York and Colon, and no other through bills of lading from New York to San Francisco are recognized by the railroad company except those which are issued by the Panama Railroad Company in New York. Goods shipped from New York across the Isthmus by any other line are charged the heavy local rates from Colon to Panama. There are certain exclusive privileges also with respect to the docks in Colon that are owned by the Panama Railroad Company, which, with the heavy local rates in effect, shut out all competition with the railroad company's steamers for the business between New York and Colon. I am inclined to agree with General Davis in his view that the wiser policy for the Commission would be to get out of the steamship business by either a lease or a sale of the steamers, under a stipulation which shall secure reasonable rates and a proper weekly service between New York and Colon.

The business of this line is increasing, and I presume there is no doubt that its profits would attract some other American steamship line to undertake the business, with stipulations securing proper rates both for the public and for the Government. I do not speak with certainty upon the details of the course to be taken with respect to the steamship lines because the question of reasonable rates is so difficult, but I am very clear that the best course for the Government to pursue is to limit its commercial business and obligations as a common carrier to the railroad on the Isthmus and to offer to all American lines at least reasonable rates, with through bills of lading, without discrimination in favor of any line.

Respectfully submitted.

WM. H. TAFT,
Secretary of War.

The PRESIDENT. ;

EXHIBIT A.

PANAMA, December 3, 1904.

By direction of the President, it is ordered that, subject to the action of the 58th Congress as contemplated by the act of Congress approved April 28, 1904:

SECTION 1. No importation of goods, wares, and merchandise shall be entered at Ancon or Cristobal, the terminal ports of the canal, except such goods, wares, and merchandise as are described in Article XIII of the treaty between the Republic of Panama and the United States, the ratifications of which were exchanged on the 26th day of February, 1904, and except goods, wares, and merchandise in transit across the Isthmus for a destination without the limits of said Isthmus, and except coal and crude mineral oil for fuel purposes to be sold at Ancon or Cristobal to sea-going vessels; said coal and oil to be admitted to those ports free of duties for said purposes:

Provided, however, That this order shall be inoperative, first, unless the Republic of Panama shall reduce the ad valorem duty on imported articles described in class 2 of the act of the National Convention of Panama passed July 5, 1904, and taking effect October 12, 1904, from fifteen per centum to ten per centum and shall not increase the rates of duty on the imported articles described in the other schedules of said act except on all forms of imported wines, liquors, alcohol, and opium on which the Republic may fix higher rates; second, unless article 38 of the Constitution of the Republic of Panama as modified by article 146 thereof shall remain in full force and unchanged so far as the importation and sale of all kinds of merchandise are concerned; third, unless the consular fees and charges of the Republic of Panama in respect to entry of all vessels and importations into said ports of Panama and Colon shall be reduced to sixty per cent of the rates now in force; and, fourth, unless goods imported into the ports of Panama and Colon consigned to or destined for any part of the Canal Zone shall not be subjected in the Republic of Panama to any other direct or indirect impost or tax whatever.

SEC. 2. In view of the proximity of the port of Ancon to the port of Panama, and the port of Cristobal to the port of Colon, the proper customs or port official of the Canal Zone shall, when not inconsistent with the interests of the United States, at the instance of the proper authority of the Republic of Panama, permit any vessel, entered at or cleared from the ports of Panama and Colon, together with its cargo and passengers, under suitable regulations for the transit of the imported merchandise and passengers to and from the territory of the Republic of Panama, to use and enjoy the dockage and other facilities of the ports of Ancon and Cristobal, respectively, upon payment of proper dockage dues to the owners of said docks:

Provided, however, That reciprocal privileges as to dockage and other facilities at Panama and Colon, together with suitable arrangement for transit of imported merchandise and passengers to and from the territory of the Canal Zone, shall be granted by the authorities of the Republic of Panama, when not inconsistent with its interests, to any vessel, together with its cargo and passengers entered at or cleared from the ports of Ancon and Cristobal: *Provided, however,* That nothing herein contained shall affect the complete administrative, police,

and judicial jurisdiction of the two governments over their respective ports and harbors, except as hereinafter provided in section 6.

Provided, also, That vessels entering or clearing at the port of Panama shall have the absolute right freely to anchor and lade and discharge their cargoes by lighterage from and to Panama at the usual anchorage in the neighborhood of the islands of Perico, Flamenco, Naos, and Culebra, though included in the harbor of Ancon, under the provisional delimitation as amended under section 5 hereafter, and to use the said waters of said harbor for all lawful commercial purposes.

SEC. 3. All manifests and invoices and other documents in respect to vessels or cargoes cleared or consigned for or from the ports of Panama and Colon shall, as heretofore, be made by the officials of the Republic of Panama. All manifests, invoices, and other documents in respect to the vessels and cargoes cleared or consigned for or from the ports of Ancon or Cristobal shall be made by officials of the United States.

SEC. 4. No import duties, tolls, or charges of any kind whatsoever shall be imposed by the authorities of the Canal Zone upon goods, wares, and merchandise imported, or upon persons passing from the territory of the Republic of Panama into the Canal Zone, and section 5 of the Executive order of June 24, 1904, providing that duties on importations into the Canal Zone are to be levied in conformity with such duties as Congress has imposed upon foreign merchandise imported into ports of the United States is hereby revoked, but this order shall be inoperative unless the authorities of the Republic of Panama shall grant by proper order reciprocal free importation of goods, wares, and merchandise and free passage of persons from the territory of the Canal Zone into that of the Republic of Panama.

SEC. 5. The provisions of this order also shall not be operative except upon the condition that the delimitation of the cities and harbors of Colon and Panama, signed on the 15th day of June, 1904, by the proper representatives of the governments of the Republic of Panama and of the Canal Zone, shall be provisionally enforced, and while the same shall remain in force with the consent of both parties thereto, the provisional delimitation shall include not only the terms set forth in the writing thereof, but also the following, viz: That the harbor of Panama shall include the maritime waters in front of said city to the south and east thereof, extending three marine miles from mean low water mark, except the maritime waters lying westerly of a line drawn from a stake or post set on Punta Mala through the middle island of the three islands known as *Las Tres Hermanas*, and extending three marine miles from mean low-water mark on Punta Mala, which waters shall be considered in the harbor of Ancon.

SEC. 6. This order also shall be inoperative unless the proper governmental authorities of the Republic of Panama shall grant power to the authorities of the Canal Zone to exercise immediate and complete jurisdiction in matters of sanitation and quarantine in the maritime waters of the ports of Panama and Colon.

SEC. 7. The Executive order of June 24, 1904, concerning the establishment of post-offices and postal service in the Canal Zone is modified and supplemented by the following provisions:

All mail matter carried in the territory of the Canal Zone to or through the Republic of Panama to the United States and to foreign

countries shall bear the stamps of the Republic of Panama properly crossed by a printed mark of the Canal Zone Government, and at rates the same as those imposed by the Government of the United States upon its domestic and foreign mail matter, exactly as if the United States and the Republic of Panama for this purpose were common territory. The authorities of the Canal Zone shall purchase from the Republic of Panama such stamps as the authorities of the Canal Zone desire to use in the Canal Zone at forty per centum of their face value; but this order shall be inoperative unless the proper authorities of the Republic of Panama shall by suitable arrangement with the postal authorities of the United States provide for the transportation of mail matter between post-offices on the Isthmus of Panama and post-offices in the United States at the same rates as are now charged for domestic postage in the United States, except all mail matter lawfully franked and inclosed in the so-called penalty envelopes of the United States Government concerning the public business of the United States, which shall be carried free, both by the governments of Panama and of the Canal Zone: *Provided, however,* That the Zone authorities may for the purpose of facilitating the transportation of through mail between the Zone and the United States in either direction inclose such through mail properly stamped or lawfully franked in sealed mail pouches, which shall not be opened by the authorities of the Republic of Panama in transit, on condition that the cost of transportation of such mail pouches shall be paid by the Zone Government.

SEC. 8. This order also shall not be operative unless the currency agreement made at Washington June 20, 1904, by the representatives of the Republic of Panama and the Secretary of War of the United States, acting with the approval of the President of the United States, for the establishment of a gold standard of value in the Republic of Panama, and proper coinage shall be approved and put into execution by the President of the Republic of Panama, pursuant to the authority conferred upon him by law of the Republic of Panama, No. 84, approved June 20, 1904, and unless the President of the Republic of Panama, in order that the operation of the said currency agreement in securing and maintaining a gold standard of value in the Republic of Panama may not be obstructed thereby, shall by virtue of his authority conferred by law No. 65, enacted by the National Assembly of Panama on June 6, 1904, abolish the tax of one per cent on gold coin exported from the Republic of Panama.

SEC. 9. Citizens of the Republic of Panama at any time residing in the Canal Zone shall have, so far as concerns the United States, entire freedom of voting at elections held in the Republic of Panama and its provinces or municipalities at such places outside of the Canal Zone as may be fixed by the Republic, and under such conditions as the Republic may determine; but nothing herein is to be construed as intending to limit the power of the Republic to exclude or restrict the right of such citizens to vote as it may be deemed judicious.

SEC. 10. The highway extending from the eastern limits of the city of Panama, as fixed in the above mentioned provisional delimitation agreement of June 10, 1904, to the point still further to the eastward where the road to the "Savannas" crosses the Zone line (which is 5 miles to eastward of the center axis of the canal) shall be repaired and

maintained in a serviceable condition at the cost and expense of the authorities of the Canal Zone, and also in like manner the said road from the said eastern limits of the city of Panama to the railroad bridge in the city of Panama shall be repaired at the cost of the authorities of the Canal Zone; but this order shall not be operative unless the Republic of Panama shall waive its claim for compensation for the use in perpetuity of the municipal buildings located in the Canal Zone.

SEC. 11. The United States will construct, maintain, and conduct a hospital or hospitals either in the Canal Zone or in the territory of the Republic, at its option, for the treatment of persons insane or afflicted with the disease of leprosy, and indigent sick, and the United States will accept for treatment therein such persons of said classes as the Republic may request; but this order shall not be operative unless, first, the Republic of Panama shall furnish without cost the requisite lands for said purposes if the United States shall locate such hospital or hospitals in the territory of the Republic; and second, unless the Republic shall contribute and pay to the United States a reasonable daily per capita charge in respect of each patient entering, upon the request of the Republic, to be fixed by the Secretary of War of the United States.

SEC. 12. The operation of this Executive order and its enforcement by officials of the United States on the one hand, or a compliance with and performance of the conditions of its operation by the Republic of Panama and its officials on the other, shall not be taken as a delimitation, definition, restriction, or restrictive construction of the rights of either party under the treaty between the United States and the Republic of Panama.

This order is to take effect on the 12th day of December, 1904.

WM. H. TAFT,
Secretary of War.

PANAMA, December 6, 1904.

Executive order of December 6, 1904, explanatory of Executive order of December 3, 1904.

SECTION I. Consignments of goods, wares, and merchandise which by virtue of Section I of the above-mentioned order of December 3, 1904, can not be entered for importation at the ports of Ancon or Cristobal may nevertheless, at the option of the consignor, if accompanied by the proper consular invoices of the consul of the Republic of Panama at the port of consignment, be landed at Ancon or Cristobal, respectively, in transit to any part of the Canal Zone or the Republic upon payment of the proper duties to the Republic of Panama, under suitable arrangements similar to those provided for by Section II of said order of December 3, 1904.

But such goods, wares, and merchandise not accompanied by consular invoice of the consul of the Republic shall not be permitted to land at Ancon or Cristobal.

SEC. II. The order of December 3, 1904, shall be construed to permit free exportation and consignment of goods, wares, and merchan-

disc and free transit of persons and vehicles from the Republic through the Canal Zone and from the terminal ports thereof.

By direction of the President:

WM. H. TAFT,
Secretary of War.

EXHIBIT B.

WAR DEPARTMENT,
Washington, D. C., January 7, 1905.

EXECUTIVE ORDER:

By direction of the President, it is hereby ordered that—

1. To entitle goods, wares, and merchandise to entry at Ancon and Cristobal, the terminal ports of the Isthmian Canal, Canal Zone, Isthmus of Panama, it is necessary that it be established by the certificate of a member of the Isthmian Canal Commission, or of the chief engineer of the Isthmian Canal Commission, or of the chief of the department of material and supplies, that said goods, wares, and merchandise are necessary and convenient for the construction of the Isthmian Canal or for the use and consumption of certain officers and employees in the service of the United States and of the Government of the Canal Zone and their families, stationed on the Isthmus of Panama, and are to be devoted to that purpose exclusively.

2. The certificates above required shall be granted only when the goods, wares, and merchandise to be certified are (1) the property, including live stock and forage, of or under contract of purchase by the United States and intended for use in the work of constructing the canal or the sanitation of the Isthmus, or for the service of the Government of the Canal Zone; (2) the property, including live stock and forage, of or under contract of purchase by a contractor with the United States or the government of the Canal Zone for work on the construction of the Isthmian Canal, the sanitation of the Isthmus of Panama, provided that any goods, wares, or merchandise that are to be offered for sale by any contractor to his employees or otherwise shall not be entitled to such entry; (3) the property of the government of the Canal Zone or of any municipality of said zone; (4) property and provisions intended for sale in commissaries established and operated by the Isthmian Canal Commission to officers, employees, and contractors of the Isthmian Canal Commission, of the Panama Railroad Company, or of any contractor with the Isthmian Canal Commission for work on the Isthmus (together with the families of such persons), who are citizens of the United States or who receive compensation on what is known as the gold pay roll of the Commission, of the railroad company, or such contractor; (5) household furniture of such officers and employees of the Isthmian Canal Commission stationed in the Canal Zone, or Republic of Panama, including such articles, effects, and furnishings as pictures, books, musical instruments, chinaware, bed and table linen, and kitchen utensils; also wearing apparel, toilet objects, and articles for personal use; books, portable tools, and instruments; jewelry and table services, in quantities and of the class suitable to the rank and position of such

officers and employees and intended for their own use and benefit and not for barter or sale, imported from the United States.

3. This order contemplates the exclusion from benefits of the commissaries established and maintained by the Commission of all employees and workmen who are natives of tropical countries wherein prevail climatic conditions similar to those prevailing on the Isthmus of Panama, and who therefore may be presumed to be able to secure the articles of food, clothing, household goods and furnishings, of the kind and character to which they are accustomed, from the merchants of Panama, Colon, and the towns of the Canal Zone, and whose ordinary needs may be supplied without recourse to the Government commissaries. Should it develop hereafter that said merchants charge prices in excess of legitimate profit, or practice other extortion, the United States, for the protection and assistance of all its employees, whether from the tropical or temperate zone, will supply its commissaries with such staple articles as are required and desired by the inhabitants of tropical countries, and permit all its employees and workmen and those of its contractors to avail themselves of the benefits and privileges afforded by said Government commissaries.

This order is to take effect on the 7th day of January, 1905.

WM. H. TAFT,
Secretary of War.

ANNUAL REPORT
OF THE
ISTHMIAN CANAL COMMISSION
FOR A
PORTION OF THE CURRENT YEAR TO
NOVEMBER 30, 1904.

COMMISSIONERS:

Rear-Admiral JOHN G. WALKER, U. S. Navy, <i>Chairman</i> .	BENJAMIN M. HARROD, C. E.
Maj. Gen. GEORGE W. DAVIS, U. S. Army.	C. EWALD GRUNSKY, C. E.
WILLIAM BARCLAY PARSONS, C. E.	FRANK J. HECKER, (Resigned November 16, 1905.)
WILLIAM H. BURR, C. E.	

OFFICE OF THE ISTHMIAN CANAL COMMISSION,
Washington, D. C., December 1, 1904.

SIR: The Isthmian Canal Commission having been actively engaged in the discharge of its duties since its first meeting on March 22, 1904, has the honor to submit this its first annual report.

ACT AUTHORIZING THE CONSTRUCTION OF AN ISTHMIAN CANAL.

The Isthmian Canal Commission is organized and is acting under the provisions of the act of Congress approved June 28, 1902, as follows:

AN ACT to provide for the construction of a canal connecting the waters of the Atlantic and Pacific oceans.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is hereby authorized to acquire, for and on behalf of the United States, at a cost not exceeding forty millions of dollars, the rights, privileges, franchises, concessions, grants of land, right of way, unfinished work, plants, and other property, real, personal and mixed, of every name and nature, owned by the New Panama Canal Company, of France, on the Isthmus of Panama, and all its maps, plans, drawings, records on the Isthmus of Panama and in Paris, including all the capital stock, not less, however, than sixty-eight thousand eight hundred and sixty-three shares of the Panama Railroad Company, owned by or held for the use of said canal company, provided a satisfactory title to all of said property can be obtained.

SEC. 2. That the President is hereby authorized to acquire from the Republic of Colombia, for and on behalf of the United States, upon such terms as he may deem reasonable, perpetual control of a strip of land, the territory of the Republic of Colombia, not less than six miles in width, extending from the Caribbean Sea to the Pacific Ocean, and the right to use and dispose of the waters thereon, and to excavate, construct, and to perpetually maintain, operate, and protect thereon a canal of such depth and capacity as will afford convenient passage of ships of the greatest tonnage and draft now in use, from the Caribbean Sea to the Pacific Ocean, which control shall include the right to perpetually maintain and operate the Panama Railroad, if the ownership thereof, or a controlling interest therein, shall have been acquired by the United States, and also jurisdiction over said strip, and the ports at the ends thereof to make such police and sanitary rules and regulations as shall be necessary to preserve order and preserve the public health thereon, and to establish

such judicial tribunals as may be agreed upon thereon as may be necessary to enforce such rules and regulations.

The President may acquire such additional territory and rights from Colombia as in his judgment will facilitate the general purpose hereof.

SEC. 3. That when the President shall have arranged to secure a satisfactory title to the property of the New Panama Canal Company, as provided in section one hereof, and shall have obtained by treaty control of the necessary territory from the Republic of Colombia, as provided in section two hereof, he is authorized to pay for the property of the New Panama Canal Company forty millions of dollars, and to the Republic of Colombia such sum as shall have been agreed upon, and a sum sufficient for both said purposes is hereby appropriated, out of any money in the Treasury not otherwise appropriated, to be paid on warrant or warrants drawn by the President.

The President shall then, through the Isthmian Canal Commission hereinafter authorized, cause to be excavated, constructed, and completed, utilizing to that end, as far as practicable, the work heretofore done by the New Panama Canal Company, of France, and its predecessor company, a ship canal from the Caribbean Sea to the Pacific Ocean. Such canal shall be of sufficient capacity and depth as shall afford convenient passage for vessels of the largest tonnage and greatest draft now in use, and such as may be reasonably anticipated, and shall be supplied with all necessary locks and other appliances to meet the necessities of vessels passing through the same from ocean to ocean; and he shall also cause to be constructed such safe and commodious harbors at the termini of said canal, and make such provisions for defense as may be necessary for the safety and protection of said canal and harbors. That the President is authorized for the purposes aforesaid to employ such persons as he may deem necessary, and to fix their compensation.

SEC. 4. That should the President be unable to obtain for the United States a satisfactory title to the property of the New Panama Canal Company and the control of the necessary territory of the Republic of Colombia and the rights mentioned in sections one and two of this Act, within a reasonable time and upon reasonable terms, then the President, having first obtained for the United States perpetual control by treaty of the necessary territory from Costa Rica and Nicaragua, upon terms which he may consider reasonable, for the construction, perpetual maintenance, operation, and protection of a canal connecting the Caribbean Sea with the Pacific Ocean by what is commonly known as the Nicaragua route, shall, through the said Isthmian Canal Commission, cause to be excavated and constructed a ship canal and waterway from a point on the shore of the Caribbean Sea near Greytown, by way of Lake Nicaragua, to a point near Brito on the Pacific Ocean. Said canal shall be of sufficient capacity and depth to afford convenient passage for vessels of the largest tonnage and greatest draft now in use, and such as may be reasonably anticipated, and shall be supplied with all necessary locks and other appliances to meet the necessities of vessels passing through the same from ocean to ocean; and he shall also construct such safe and commodious harbors at the termini of said canal as shall be necessary for the safe and convenient use thereof, and shall make such provisions for defense as may be necessary for the safety and protection of said harbors and canal; and such sum or sums of money as may be agreed upon by such treaty as compensation to be paid to Nicaragua and Costa Rica for the concessions and rights hereunder provided to be acquired by the United States are hereby appropriated, out of any money in the Treasury not otherwise appropriated, to be paid on warrant or warrants drawn by the President.

The President shall cause the said Isthmian Canal Commission to make such surveys as may be necessary for said canal and harbors to be made, and in making such surveys and in the construction of said canal may employ such persons as he may deem necessary, and may fix their compensation.

In the excavation and construction of said canal the San Juan River and Lake Nicaragua, or such parts of each as may be made available, shall be used.

SEC. 5. That the sum of ten million dollars is hereby appropriated, out of any money in the Treasury not otherwise appropriated, toward the project herein contemplated by either route so selected.

And the President is hereby authorized to cause to be entered into such contract or contracts as may be deemed necessary for the proper excavation, construction, completion, and defense of said canal, harbors, and defenses, by the route finally determined upon under the provisions of this Act. Appropriations therefor shall from time to time be hereafter made, not to exceed in the aggregate the additional sum of one hundred and thirty-five millions of dollars, should the Panama route be adopted, or one hundred and eighty millions of dollars should the Nicaragua route be adopted.

SEC. 6. That in any agreement with the Republic of Colombia, or with the States of Nicaragua and Costa Rica, the President is authorized to guarantee to said Republic

or to said States the use of said canal and harbors, upon such terms as may be agreed upon, for all vessels owned by said States or by citizens thereof.

Sec. 7. That to enable the President to construct the canal and works appurtenant thereto, as provided in this Act, there is hereby created the Isthmian Canal Commission, the same to be composed of seven members, who shall be nominated and appointed by the President, by and with the advice and consent of the Senate, and who shall serve until the completion of said canal unless sooner removed by the President, and one of whom shall be named as the chairman of said Commission. Of the seven members of said Commission at least four of them shall be persons learned and skilled in the science of engineering, and of the four at least one shall be an officer of the United States Army, and at least one other shall be an officer of the United States Navy, the said officers respectively being either upon the active or retired list of the Army or of the Navy. Said Commissioners shall each receive such compensation as the President shall prescribe until the same shall have been otherwise fixed by the Congress. In addition to the members of said Isthmian Canal Commission the President is hereby authorized, through said Commission, to employ in said service any of the engineers of the United States Army at his discretion, and likewise to employ any engineers in civil life, at his discretion, and any other persons necessary for the proper and expeditious prosecution of said work. The compensation of all such engineers and other persons employed under this act shall be fixed by said Commission, subject to the approval of the President. The official salary of any officer appointed or employed under this act shall be deducted from the amount of salary or compensation provided by or which shall be fixed under the terms of this act. Said Commission shall in all matters be subject to the direction and control of the President, and shall make to the President annually and at such other periods as may be required, either by law or by the order of the President, full and complete reports of all their actings and doings and of all moneys received and expended in the construction of said work and in the performance of their duties in connection therewith, which said reports shall be by the President transmitted to Congress. And the said Commission shall furthermore give to Congress, or either House of Congress, such information as may at any time be required either by act of Congress or by the order of either House of Congress. The President shall cause to be provided and assigned for the use of the Commission such offices as may, with the suitable equipment of same, be necessary and proper, in his discretion, for the proper discharge of the duties thereof.

Sec. 8. That the Secretary of the Treasury is hereby authorized to borrow on the credit of the United States from time to time, as the proceeds may be required to defray expenditures authorized by this act (such proceeds when received to be used only for the purpose of meeting such expenditures), the sum of one hundred and thirty million dollars, or so much thereof as may be necessary, and to prepare and issue therefor coupon or registered bonds of the United States in such form as he may prescribe, and in denominations of twenty dollars or some multiple of that sum, redeemable in gold coin at the pleasure of the United States after ten years from the date of their issue, and payable thirty years from such date, and bearing interest payable quarterly in gold coin at the rate of two per centum per annum; and the bonds herein authorized shall be exempt from all taxes or duties of the United States, as well as from taxation in any form by or under State, municipal, or local authority: *Provided*, That said bonds may be disposed of by the Secretary of the Treasury at not less than par, under such regulations as he may prescribe, giving to all citizens of the United States an equal opportunity to subscribe therefor, but no commissions shall be allowed or paid thereon; and a sum not exceeding one-tenth of one per centum of the amount of the bonds herein authorized is hereby appropriated, out of any money in the Treasury not otherwise appropriated, to pay the expense of preparing, advertising, and issuing the same.

Approved, June 28, 1902.

TREATY WITH THE REPUBLIC OF PANAMA.

The treaty between the United States and the Republic of Panama, under which the construction of the Panama Canal has been made possible, was signed at Washington on November 18, 1903, was ratified by the Republic of Panama on December 2, 1903, and by the United States Senate on February 23, 1904, and is as follows:

The United States of America and the Republic of Panama being desirous to insure the construction of a ship canal across the Isthmus of Panama to connect the Atlantic and Pacific oceans, and the Congress of the United States of America having

passed an act approved June 28, 1902, in furtherance of that object, by which the President of the United States is authorized to acquire within a reasonable time the control of the necessary territory of the Republic of Colombia, and the sovereignty of such territory being actually vested in the Republic of Panama, the high contracting parties have resolved for that purpose to conclude a convention and have accordingly appointed as their plenipotentiaries,—

The President of the United States of America, John Hay, Secretary of State, and

The Government of the Republic of Panama, Philippe Bunau-Varilla, envoy extraordinary and minister plenipotentiary of the Republic of Panama, thereunto specially empowered by said Government, who after communicating with each other their respective full powers, found to be in good and due form, have agreed upon and concluded the following articles:

ARTICLE I.

The United States guarantees and will maintain the independence of the Republic of Panama.

ARTICLE II.

The Republic of Panama grants to the United States in perpetuity the use, occupation and control of a zone of land and land under water for the construction, maintenance, operation, sanitation and protection of said canal of the width of ten miles extending to the distance of five miles on each side of the center line of the route of the canal to be constructed; the said Zone beginning in the Caribbean Sea three marine miles from mean low-water mark and extending to and across the Isthmus of Panama into the Pacific Ocean to a distance of three marine miles from mean low-water mark with the proviso that the cities of Panama and Colon and the harbors adjacent to said cities, which are included within the boundaries of the Zone above described, shall not be included within this grant. The Republic of Panama further grants to the United States in perpetuity the use, occupation and control of any other lands and waters outside of the Zone above described which may be necessary and convenient for the construction, maintenance, operation, sanitation and protection of the said canal or of any auxiliary canals or other works necessary and convenient for the construction, maintenance, operation, sanitation and protection of the said enterprise.

The Republic of Panama further grants in like manner to the United States in perpetuity all islands within the limits of the Zone above described and in addition thereto the group of small islands in the Bay of Panama, named Perico, Naos, Culebra and Flamenco.

ARTICLE III.

The Republic of Panama grants to the United States all the rights, power and authority within the Zone mentioned and described in Article II of this agreement and within the limits of all auxiliary lands and waters mentioned and described in said Article II which the United States would possess and exercise if it were the sovereign of the territory within which said lands and waters are located to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power or authority.

ARTICLE IV.

As rights subsidiary to the above grants the Republic of Panama grants in perpetuity to the United States the right to use the rivers, streams lakes and other bodies of water within its limits for navigation, the supply of water or water power or other purposes, so far as the use of said rivers, streams, lakes and bodies of water and the waters thereof may be necessary and convenient for the construction, maintenance, operation, sanitation and protection of the said canal.

ARTICLE V.

The Republic of Panama grants to the United States in perpetuity a monopoly for the construction, maintenance and operation of any system of communication by means of canal or railroad across its territory between the Caribbean Sea and the Pacific Ocean.

ARTICLE VI.

The grants herein contained shall in no manner invalidate the titles or rights of private landholders or owners of private property in the said Zone or in or to any of the lands or waters granted to the United States by the provisions of any article

of this treaty, nor shall they interfere with the rights of way over the public roads passing through the said Zone or over any of the said lands or waters unless said rights of way or private rights shall conflict with rights herein granted to the United States in which case the rights of the United States shall be superior. All damages caused to the owners of private lands or private property of any kind by reason of the grants contained in this treaty or by reason of the operations of the United States, its agents or employees, or by reason of the construction, maintenance, operation, sanitation and protection of the said canal or of the works of sanitation and protection herein provided for, shall be appraised and settled by a joint commission appointed by the Governments of the United States and the Republic of Panama, whose decisions as to such damages shall be final and whose awards as to such damages shall be paid solely by the United States. No part of the work on said canal or the Panama Railroad or on any auxiliary works relating thereto and authorized by the terms of this treaty shall be prevented, delayed or impeded by or pending such proceedings to ascertain such damages. The appraisal of said private lands and private property and the assessment of damages to them shall be based upon their value before the date of this convention.

ARTICLE VII.

The Republic of Panama grants to the United States within the limits of the cities of Panama and Colon and their adjacent harbors and within the territory adjacent thereto the right to acquire by purchase or by the exercise of the right of eminent domain, any lands, buildings, water rights or other properties necessary and convenient for the construction, maintenance, operation and protection of the canal and of any works of sanitation, such as the collection and disposition of sewage and the distribution of water in the said cities of Panama and Colon, which, in the discretion of the United States may be necessary and convenient for the construction, maintenance, operation, sanitation and protection of the said canal and railroad. All such works of sanitation, collection and disposition of sewage and distribution of water in the cities of Panama and Colon shall be made at the expense of the United States, and the Government of the United States, its agents or nominees shall be authorized to impose and collect water rates and sewerage rates which shall be sufficient to provide for the payment of interest and the amortization of the principal of the cost of said works within a period of fifty years and upon the expiration of said term of fifty years the system of sewers and water works shall revert to and become the properties of the cities of Panama and Colon respectively, and the use of the water shall be free to the inhabitants of Panama and Colon, except to the extent that water rates may be necessary for the operation and maintenance of said system of sewers and water.

The Republic of Panama agrees that the cities of Panama and Colon shall comply in perpetuity with the sanitary ordinances whether of a preventive or curative character, prescribed by the United States and in case the Government of Panama is unable or fails in its duty to enforce this compliance by the cities of Panama and Colon with the sanitary ordinances of the United States the Republic of Panama grants to the United States the right and authority to enforce the same.

The same right and authority are granted to the United States for the maintenance of public order in the cities of Panama and Colon and the territories and harbors adjacent thereto in case the Republic of Panama should not be, in the judgment of the United States, able to maintain such order.

ARTICLE VIII.

The Republic of Panama grants to the United States all rights which it now has or hereafter may acquire to the property of the New Panama Canal Company and the Panama Railroad Company as a result of the transfer of sovereignty from the Republic of Colombia to the Republic of Panama over the Isthmus of Panama and authorizes the New Panama Canal Company to sell and transfer to the United States its rights, privileges, properties and concessions as well as the Panama Railroad and all the shares or part of the shares of that company; but the public lands situated outside of the Zone described in Article II of this treaty now included in the concessions to both said enterprises and not required in the construction or operation of the canal shall revert to the Republic of Panama except any property now owned by or in the possession of said companies within Panama or Colon or the ports or terminals thereof.

ARTICLE IX.

The United States agrees that the ports at either entrance of the canal and the waters thereof, and the Republic of Panama agrees that the towns of Panama and

Colon shall be free for all time so that there shall not be imposed or collected custom-house tolls, tonnage, anchorage, light-house, wharf, pilot, or quarantine dues or any other charges or taxes of any kind upon any vessel using or passing through the canal or belonging to or employed by the United States, directly or indirectly, in connection with the construction, maintenance, operation, sanitation and protection of the main canal, or auxiliary works, or upon the cargo, officers, crew, or passengers of any such vessels, except such tolls and charges as may be imposed by the United States for the use of the canal and other works, and except tolls and charges imposed by the Republic of Panama upon merchandise destined to be introduced for the consumption of the rest of the Republic of Panama, and upon vessels touching at the ports of Colon and Panama and which do not cross the canal.

The Government of the Republic of Panama shall have the right to establish in such ports and in the towns of Panama and Colon such houses and guards as it may deem necessary to collect duties on importations destined to other portions of Panama and to prevent contraband trade. The United States shall have the right to make use of the towns and harbors of Panama and Colon as places of anchorage, and for making repairs, for loading, unloading, depositing, or transshipping cargoes either in transit or destined for the service of the canal and for other works pertaining to the canal.

ARTICLE X.

The Republic of Panama agrees that there shall not be imposed any taxes, national, municipal, departmental, or of any other class, upon the canal, the railways and auxiliary works, tugs and other vessels employed in the service of the canal, store-houses, workshops, offices, quarters for laborers, factories of all kinds, warehouses, wharves, machinery and other works, property, and effects appertaining to the canal or railroad and auxiliary works, or their officers or employees, situated within the cities of Panama and Colon, and that there shall not be imposed contributions or charges of a personal character of any kind upon officers, employees, laborers, and other individuals in the service of the canal and railroad and auxiliary works.

ARTICLE XI.

The United States agrees that the official dispatches of the Government of the Republic of Panama shall be transmitted over any telegraph and telephone lines established for canal purposes and used for public and private business at rates not higher than those required from officials in the service of the United States.

ARTICLE XII.

The Government of the Republic of Panama shall permit the immigration and free access to the lands and workshops of the canal and its auxiliary works of all employees and workmen of whatever nationality under contract to work upon or seeking employment upon or in any wise connected with the said canal and its auxiliary works, with their respective families, and all such persons shall be free and exempt from the military service of the Republic of Panama.

ARTICLE XIII.

The United States may import at any time into the said Zone and auxiliary lands, free of custom duties, imposts, taxes, or other charges, and without any restrictions, any and all vessels, dredges, engines, cars, machinery, tools, explosives, materials, supplies, and other articles necessary and convenient in the construction, maintenance, operation, sanitation and protection of the canal and auxiliary works, and all provisions, medicines, clothing, supplies, and other things necessary and convenient for the officers, employees, workmen and laborers in the service and employ of the United States and for their families. If any such articles are disposed of for use outside of the Zone and auxiliary lands granted to the United States and within the territory of the Republic, they shall be subject to the same import or other duties as like articles imported under the laws of the Republic of Panama.

ARTICLE XIV.

As the price of compensation for the rights, powers and privileges granted in this convention by the Republic of Panama to the United States, the Government of the United States agrees to pay to the Republic of Panama the sum of ten million dollars (\$10,000,000) in gold coin of the United States on the exchange of the ratifica-

tion of this convention and also an annual payment during the life of this convention of two hundred and fifty thousand dollars (\$250,000) in like gold coin, beginning nine years after the date aforesaid.

The provisions of this article shall be in addition to all other benefits assured to the Republic of Panama under this convention.

But no delay or difference of opinion under this article or any other provisions of this treaty shall affect or interrupt the full operation and effect of this convention in all other respects.

ARTICLE XV.

The joint commission referred to in Article VI shall be established as follows:

The President of the United States shall nominate two persons and the President of the Republic of Panama shall nominate two persons and they shall proceed to a decision; but in case of disagreement of the commission (by reason of their being equally divided in conclusion) an umpire shall be appointed by the two Governments who shall render the decision. In the event of the death, absence, or incapacity of a commissioner or umpire, or of his omitting, declining or ceasing to act, his place shall be filled by the appointment of another person in the manner above indicated. All decisions by a majority of the commission or by the umpire shall be final.

ARTICLE XVI.

The two Governments shall make adequate provision by future agreement for the pursuit, capture, imprisonment, detention and delivery within said Zone and auxiliary lands to the authorities of the Republic of Panama of persons charged with the commitment of crimes, felonies or misdemeanors without said Zone and for the pursuit, capture, imprisonment, detention and delivery without said Zone to the authorities of the United States of persons charged with the commitment of crimes, felonies and misdemeanors within said Zone and auxiliary lands.

ARTICLE XVII.

The Republic of Panama grants to the United States the use of all the ports of the Republic open to commerce as places of refuge for any vessels employed in the canal enterprise, and for all vessels passing or bound to pass through the canal which may be in distress and be driven to seek refuge in said ports. Such vessels shall be exempt from anchorage and tonnage dues on the part of the Republic of Panama.

ARTICLE XVIII.

The canal, when constructed, and the entrances thereto shall be neutral in perpetuity, and shall be opened upon the terms provided for by section 1 of article three of, and in conformity with all the stipulations of, the treaty entered into by the Governments of the United States and Great Britain on November 18, 1901.

ARTICLE XIX.

The Government of the Republic of Panama shall have the right to transport over the canal its vessels and its troops and munitions of war in such vessels at all times without paying charges of any kind. The exemption is to be extended to the auxiliary railway for the transportation of persons in the service of the Republic of Panama, or of the police force charged with the preservation of public order outside of said Zone, as well as to their baggage, munitions of war and supplies.

ARTICLE XX.

If by virtue of any existing treaty in relation to the territory of the Isthmus of Panama, whereof the obligations shall descend or be assumed by the Republic of Panama, there may be any privilege or concession in favor of the Government or the citizens or subjects of a third power relative to an interoceanic means of communication which in any of its terms may be incompatible with the terms of the present convention, the Republic of Panama agrees to cancel or modify such treaty in due form, for which purpose it shall give to the said third power the requisite notification within the term of four months from the date of the present convention, and in case the existing treaty contains no clause permitting its modifications or annulment, the Republic of Panama agrees to procure its modification or annulment in such form that there shall not exist any conflict with the stipulations of the present convention.

ARTICLE XXI.

The rights and privileges granted by the Republic of Panama to the United States in the preceding articles are understood to be free of all anterior debts, liens, trusts, or liabilities, or concessions or privileges to other governments, corporations, syndicates or individuals, and, consequently, if there should arise any claims on account of the present concessions and privileges or otherwise, the claimants shall resort to the Government of the Republic of Panama and not to the United States for any indemnity or compromise which may be required.

ARTICLE XXII.

The Republic of Panama renounces and grants to the United States the participation to which it might be entitled in the future earnings of the canal under Article XV of the concessionary contract with Lucien N. B. Wyse, now owned by the New Panama Canal Company and any and all other rights or claims of a pecuniary nature arising under or relating to said concession, or arising under or relating to the concessions to the Panama Railroad Company or any extension or modification thereof; and it likewise renounces, confirms and grants to the United States, now and hereafter, all the rights and property reserved in the said concessions which otherwise would belong to Panama at or before the expiration of the terms of ninety-nine years of the concessions granted to or held by the above-mentioned party and companies, and all right, title and interest which it now has or may hereafter have, in and to the lands, canal, works, property and rights held by the said companies under said concessions or otherwise, and acquired or to be acquired by the United States from or through the New Panama Canal Company, including any property and rights which might or may in the future either by lapse of time, forfeiture or otherwise, revert to the Republic of Panama under any contracts or concessions, with said Wyse, the Universal Panama Canal Company, the Panama Railroad Company and the New Panama Canal Company.

The aforesaid rights and property shall be and are free and released from any present or reversionary interest in or claims of Panama and the title of the United States thereto upon consummation of the contemplated purchase by the United States from the New Panama Canal Company, shall be absolute, so far as concerns the Republic of Panama, excepting always the rights of the Republic specifically secured under this treaty.

ARTICLE XXIII.

If it should become necessary at any time to employ armed forces for the safety or protection of the canal, or of the ships that make use of the same, or the railways and auxiliary works, the United States shall have the right, at all times and in its discretion, to use its police and its land and naval forces or to establish fortifications for these purposes.

ARTICLE XXIV.

No change either in the government or in the laws and treaties of the Republic of Panama shall, without the consent of the United States, affect any right of the United States under the present convention, or under any treaty stipulation between the two countries that now exists or may hereafter exist touching the subject-matter of this convention.

If the Republic of Panama shall hereafter enter as a constituent into any other Government or into any union or confederation of states, so as to merge her sovereignty or independence in such government, union or confederation, the rights of the United States under this convention shall not be in any respect lessened or impaired.

ARTICLE XXV.

For the better performance of the engagements of this convention and to the end of the efficient protection of the canal and the preservation of its neutrality, the Government of the Republic of Panama will sell or lease to the United States lands adequate and necessary for naval or coaling stations on the Pacific coast and on the western Caribbean coast of the Republic at certain points to be agreed upon with the President of the United States.

ARTICLE XXVI.

This convention, when signed by the plenipotentiaries of the contracting parties shall be ratified by the respective Governments and the ratifications shall be exchanged at Washington at the earliest date possible.

THE LAW ESTABLISHING A GOVERNMENT FOR THE CANAL ZONE.

Provision for the government of the Canal Zone on the Isthmus of Panama was made by the act of Congress approved April 28, 1904, which act is as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President is hereby authorized, upon the acquisition of the property of the New Panama Canal Company and the payment to the Republic of Panama of the ten millions of dollars provided by article fourteen of the treaty between the United States and the Republic of Panama, the ratifications of which were exchanged on the twenty-sixth day of February, nineteen hundred and four, to be paid to the latter Government, to take possession of and occupy on behalf of the United States the zone of land and land under water of the width of ten miles, extending to the distance of five miles on each side of the center line of the route of the canal to be constructed thereon, which said zone begins in the Caribbean Sea three marine miles from mean low-water mark and extends to and across the Isthmus of Panama into the Pacific Ocean to the distance of three marine miles from mean low-water mark, and also of all islands within said zone, and in addition thereto the group of islands in the Bay of Panama named Perico, Naos, Culebra, and Flamenco, and, from time to time, of any lands and waters outside of said zone which may be necessary and convenient for the construction, maintenance, operation, sanitation, and protection of the said canal, or of any auxiliary canals or other works necessary and convenient for the construction, maintenance, operation, sanitation, and protection of said enterprise, the use, occupation, and control whereof were granted to the United States by article two of said treaty. The said zone is hereinafter referred to as "the Canal Zone." The payment of the ten millions of dollars provided by article fourteen of said treaty shall be made in lieu of the indefinite appropriation made in the third section of the act of June twenty-eighth, nineteen hundred and two, and is hereby appropriated for said purpose.

SEC. 2. That until the expiration of the Fifty-eighth Congress, unless provision for the temporary government of the Canal Zone be sooner made by Congress, all the military, civil, and judicial powers as well as the power to make all rules and regulations necessary for the government of the Canal Zone and all the rights, powers, and authority granted by the terms of said treaty to the United States shall be vested in such person or persons and shall be exercised in such manner as the President shall direct for the government of said zone and maintaining and protecting the inhabitants thereof in the free enjoyment of their liberty, property, and religion.

INSTRUCTIONS FROM THE PRESIDENT.

On May 9, 1904, the President issued instructions to the Commission, through the Secretary of War, as authorized by the act above quoted, placing the Commission in charge of the government of the Canal Zone, giving it the power to legislate, and appointing Maj. Gen. George W. Davis, a member of the Commission, governor of the Canal Zone. The President's letter of instructions to the Secretary of War is as follows:

WHITE HOUSE,
Washington, D. C., May 9, 1904.

SIR: By the act of Congress approved June 28, 1902, the President of the United States is authorized to acquire for, and on behalf of, the United States all the rights, privileges, franchises, concessions, grants of lands, rights of way, unfinished work, plants, shares of the capital stock of the Panama Railway, owned by or held for the use of the New Panama Canal Company, and any other property, real, personal, and mixed of any name or nature owned by the said New Panama Canal Company situated on the Isthmus of Panama. The President is by the same act also authorized to acquire for, and on behalf of, the United States perpetual control of a strip of land on the Isthmus of Panama, not less than 6 miles in width, extending from the Caribbean Sea to the Pacific Ocean, and the right to excavate, construct, and maintain perpetually, operate and protect thereon, a ship canal of certain specified capacity and also the right to perpetually operate the Panama Railroad. Having acquired such rights, franchises, property, and control, the President is by the same act required to excavate, construct, and complete a ship canal from the Caribbean

Sea to the Pacific Ocean, and to enable him to carry forward and complete this work, he is authorized to appoint, by and with the consent of the Senate, an Isthmian Canal Commission of seven members, who are to be in all matters subject to his direction and control.

By the terms of the canal convention between the United States and the Republic of Panama, entered into in pursuance of the said act of Congress approved June 28, 1902, the ratifications of which were exchanged on the 28th day of February, 1904, the Republic of Panama granted to the United States:

First. The perpetual use, occupation, and control of a certain zone of land, land under water including islands within said zone, at the Isthmus of Panama, all to be utilized in the construction, maintenance, and operation, sanitation and protection of the ship canal, of the width of 10 miles extending to the distance of 5 miles on each side of the central line of the route of the canal, and the use, occupation, and control of other lands and waters outside of the zone above described which may be necessary and convenient for the construction, maintenance, operation, sanitation, and protection of said canal or of any auxiliary canals or other works necessary and convenient for the same purpose; also the islands of Perico, Naos, Culebra, and Flamenco, situated in the Bay of Panama, and

Second. All the rights, powers, and authority within the zone, auxiliary lands and lands under water, which the United States would possess and exercise if it were the sovereign of the territory granted, to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, and authority.

By the act of Congress approved April 28, 1904, the President is authorized, upon acquisition of the property of the New Panama Canal Company, and the payment to the Republic of Panama of the price for compensation agreed upon in the said Canal Convention, to take possession of, and occupy on behalf of the United States, the zone of land, and land under water, including islands within said zone at the Isthmus of Panama of the width of 10 miles extending to the distance of 5 miles on each side of the central line of the route of the canal to be constructed thereon, including the islands of Perico, Naos, Culebra, and Flamenco, and from time to time as may be necessary and convenient certain auxiliary lands and waters outside the said zone for the purpose of constructing, maintaining, operating, sanitating, and protecting the ship canal, the use, occupation, and control whereof were granted to the United States by the Republic of Panama in the said Canal Convention.

By the same act, the President is authorized, for the purpose of providing temporarily for the maintenance of order in the Canal Zone and for maintaining and protecting the inhabitants thereof in the free enjoyment of their liberty, property, and religion, to delegate to such person or persons as he may designate and to control the manner of their exercise, all the military, civil and judicial powers as well as the power to make all needful rules and regulations for the government of the Canal Zone and all the rights, powers and authority granted by the said Canal Convention to the United States, until the close of the Fifty-eighth Congress.

Payments of the authorized purchase price of \$40,000,000 to the New Panama Canal Company for the property of that corporation on the Isthmus, including the shares of railway stock, and for the records in Paris, and of the sum of \$10,000,000, as stipulated in the Canal Convention, to the Republic of Panama for the rights, powers and privileges granted to the United States by the terms of the said convention, have been made and proper instruments of transfer have been executed by the Panama Canal Company. The members of the Isthmian Canal Commission have been appointed. They have organized the Commission and entered upon their duties. I have taken possession of and now occupy, on behalf of the United States, the Canal Zone and public land ceded by the Republic of Panama.

It becomes my duty, under the statutes above referred to, to secure the active prosecution of the work of construction of the canal and its auxiliary works, through the Isthmian Canal Commission, and in connection with such work and in aid thereof to organize and conduct a temporary government of the Zone, so as to maintain and protect the inhabitants thereof in the free enjoyment of their liberty, property, and religion.

Inasmuch as it is impracticable for the President, with his other public duties, to give to the work of supervising the Commission's construction of the canal and government of the Zone the personal attention which seems proper and necessary, and inasmuch as the War Department is the Department which has always supervised the construction of the great civil works for improving the rivers and harbors of the country and the extended military works of public defense, and as the said Department has from time to time been charged with the supervision of the government of all the island possessions of the United States, and continues to supervise the government of the Philippine Islands, I direct that all the work of the

Commission done by virtue of powers vested in me by the act of Congress approved June 28, 1902, in the digging, construction, and completion of the canal, and all the governmental power in and over said Canal Zone and its appurtenant territory, which by virtue of the act of Congress approved April 28, 1904, and these instructions, shall be vested in said Isthmian Canal Commission, shall be carried on or exercised under your supervision and direction as Secretary of War.

Subject to the limitations of law and the conditions herein contained, the Isthmian Canal Commission are authorized and directed:

(1.) To make all needful rules and regulations for the government of the Zone and for the correct administration of the military, civil, and judicial affairs of its possessions until the close of the Fifty-eighth Congress.

(2.) To establish a civil service for the government of the strip and construction of the canal, appointments to which shall be secured as nearly as practicable by a merit system.

(3.) To make or cause to be made all needful surveys, borings, designs, plans, and specifications of the engineering, hydraulic, and sanitary works required and to supervise the execution of the same.

(4.) To make and cause to be executed after due advertisement all necessary contracts for any and all kinds of engineering and construction works.

(5.) To acquire by purchase or through proper and uniform expropriation proceedings, to be prescribed by the Commission, any private lands or other real property whose ownership by the United States is essential to the excavation and completion of the canal.

(6.) To make all needful rules and regulations respecting an economical and correct disbursement and an accounting for all funds that may be appropriated by Congress for the construction of the canal, its auxiliary works, and the government of the Canal Zone; and also to establish a proper and comprehensive system of bookkeeping, showing the state of the work, the expenditures by classes, and the amounts still available.

(7.) To make requisition on the Secretary of War for funds needed from time to time in the proper prosecution of the work and to designate the disbursing officers authorized to receipt for the same.

The inhabitants of the Isthmian Canal Zone are entitled to security in their persons, property, and religion, and in all their private rights and relations. They should be so informed by public announcement. The people should be disturbed as little as possible in their customs and avocations that are in harmony with principles of well ordered and decent living.

The municipal laws of the Canal Zone are to be administered by the ordinary tribunals substantially as they were before the change. Police magistrates and justices of the peace and other officers discharging duties usually devolving upon these officers of the law will be continued in office if they are suitable persons. The governor of the Zone, subject to approval of the Commission, is authorized to appoint temporarily a judge for the Canal Zone, who shall have the authority equivalent to that usually exercised in Latin countries by a judge of a court of first instance, but the Isthmian Canal Commission shall fix his salary and may legislate respecting his powers and authority, increasing or diminishing them in their discretion, and also making provision for additional or appellate judges, should the public interest require.

The laws of the land, with which the inhabitants are familiar, and which were in force on February 28, 1904, will continue in force in the Canal Zone and in other places on the Isthmus over which the United States has jurisdiction until altered or annulled by the said Commission, but there are certain great principles of government which have been made the basis of an existence as a nation which we deem essential to the rule of law and the maintenance of order, and which shall have force in said Zone. The principles referred to may be generally stated as follows:

That no person shall be deprived of life, liberty, or property without due process of law; that private property shall not be taken for public use without just compensation; that in all criminal prosecutions the accused shall enjoy the right of a speedy and public trial, to be informed of the nature and cause of the accusation, to be confronted with the witnesses against him, to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defense; that excessive bail shall not be required nor excessive fines imposed, nor cruel or unusual punishment inflicted; that no person shall be put twice in jeopardy for the same offense, or be compelled in any criminal case to be a witness against himself; that the right to be secure against unreasonable searches and seizures shall not be violated; that neither slavery nor involuntary servitude shall exist except as a punishment for crime; that no bill of attainder or ex post facto law shall be passed; that no law shall be passed abridging the freedom of speech or of the press, or of the

rights of the people to peaceably assemble and petition the government for a redress of grievances; that no law shall be made respecting the establishment of religion or prohibiting the free exercise thereof: *Provided, however,* That the Commission shall have power to exclude from time to time from the Canal Zone and other places on the Isthmus, over which the United States has jurisdiction, persons of the following class who were not actually domiciled within the Zone on the 26th day of February, 1904, viz: idiots, the insane, epileptics, paupers, criminals, professional beggars, persons afflicted with loathsome or dangerous contagious diseases; those who have been convicted of felony, anarchists, those whose purpose it is to incite insurrection and others whose presence it is believed by the Commission would tend to create public disorder, endanger the public health, or in any manner impede the prosecution of the work of opening the canal; and may cause any and all such newly arrived persons or those alien to the Zone to be expelled and deported from the territory controlled by the United States, and the Commission may defray from the canal appropriation the cost of such deportation as necessary expenses of the sanitation, the police protection of the canal route, and the preservation of good order among the inhabitants.

The Commission may legislate on all rightful subjects of legislation not inconsistent with the laws and treaties of the United States so far as they apply to said Zone and other places, and the said power shall include the enactment of the sanitary ordinances of a preventive or curative character to be enforced in the cities of Colon and Panama and which are contemplated and authorized by article 7 of said canal convention. Such legislative power shall also include the power to raise and appropriate revenues in said Zone; and all taxes, judicial fines, customs duties and other revenues levied and collected in said Zone by or under the authority of said Commission shall be retained, accounted for, and disbursed by said Commission for its proper purposes. The members of said Commission to the number of four or more shall constitute a legislative quorum, and all rules and regulations passed and enacted by said Commission shall have set forth as a caption that they are enacted by the Isthmian Canal Commission "by authority of the President of the United States."

The Commission shall hold its regular quarterly meetings at the office of the Commission either in Panama or at a branch office in Washington, and special meetings may be held at the pleasure of the Commission.

All laws, rules, and regulations of a governmental character enacted by the Commission hereunder shall be submitted to you for your approval, and should your approval be withheld from any such law, rule, or regulation, then from that time the law, rule, or regulation shall thereafter have no force or effect.

Maj. Gen. George W. Davis, U. S. Army (retired), a member of the Canal Commission, is hereby appointed governor of the Isthmian Canal Zone. He will proceed at once to the Isthmus of Panama. He will in my name, as the chief executive in the Canal Zone, for and on behalf of the United States, see that the laws are faithfully executed and will maintain possession of said territory, including the public lands therein and the property real and movable on the Isthmus of Panama, except that of the Panama Railroad, that has recently been acquired from the Republic of Panama. He is hereby vested with the power to grant reprieves and pardons for offenses against the rules, regulations, and laws in force by virtue of action of the Commission or by virtue of the clause hereof continuing in force the laws of Panama. In case of his disability or absence from the Canal Zone at any time, the Isthmian Canal Commission is empowered to designate the person or persons to act as governor during such absence or disability. Except as herein prescribed the duties of the governor shall be fixed by legislation of the Canal Commission.

For the preservation of order and protecting the property of the United States, within or without said Zone as provided by article 7 of the canal convention, an adequate police force shall be maintained. If at any time there shall arise necessity for military or naval assistance the governor shall, if possible, promptly notify you, and in the event of a sudden exigency the governor may call upon any available military or naval force of the United States to render assistance, and the same shall be immediately furnished.

It is a matter of first importance that the most approved and effective methods and measures known to sanitary science be adopted in order that the health conditions on the Isthmus may be improved. It is the belief of those who have noted the successful results secured by our army in Cuba in the obliteration of yellow fever in that island that it is entirely feasible to banish the diseases that have heretofore caused most mortality on the Isthmus, or at least to improve as greatly the health conditions there as in Cuba and Porto Rico. I desire that every possible effort be made to protect our officers and workmen from the dangers of tropical and other diseases, which in the past have been so prevalent and destructive in Panama.

Rear-Admiral John G. Walker, U. S. Navy (retired), and Col. Frank J. Hecker, members of the Isthmian Canal Commission, are hereby designated as members of the joint commission provided for by articles 6 and 15 of the canal convention. The moiety of the necessary expenses of the Commission to be created in pursuance of articles 6 and 15 of the above-cited canal convention will be defrayed from the appropriation applicable to the ship canal to connect the waters of the Atlantic and Pacific oceans.

The Isthmian Canal Commission will prepare for Congress and place in your hands on or before December 1 of each year a full and complete report of all their acts and of the operations conducted by them in respect to the canal construction and the government of the Canal Zone. These reports will contain a detailed account of all moneys received and disbursed in the performance of their duties and of the progress made in the construction of the canal.

The necessary expenses incurred by the Commission in carrying on the government of the Canal Zone will be defrayed from the local revenues so far as the said revenues may be sufficient and the remainder will be met from the appropriation made by the fifth section of the act of Congress approved June 28, 1902. An estimate of the proposed expenditures and revenues for each year in carrying on the government of the Zone will be submitted to Congress at the beginning of each annual session.

By virtue of the ownership by the United States of about sixty-nine seventieths of the shares of the capital stock of the Panama Railroad the general policy of the managers of said road will be controlled by the United States. As soon as practicable I desire that all the members of the Isthmian Canal Commission be elected to the board of directors of the road, and that the policy of the road be completely harmonized with the policy of the Government of making it an adjunct to the construction of the canal, at the same time fulfilling the purpose for which it was constructed as a route of commercial movement across the Isthmus of Panama. If any contracts or other obligations now subsist between the railway company and other transportation companies that are not in accord with sound public policy, then such contracts must be terminated as soon as it is possible to effect that object.

No salary or per diem allowance of compensation in addition to the stated salary and per diem allowance of the members of the Isthmian Canal Commission will be allowed to any member of the Commission by reason of his services in connection with the civil government of the Canal Zone, or his membership of any board or commission concerned in or connected with the construction of the canal or by reason of his services as an officer or director of the Panama Railroad.

If there now be in force within the Canal Zone any franchise granting to any person or persons a privilege to maintain lotteries or hold lottery drawings or other gambling methods and devices of a character forbidden by the laws of the United States, or if the grantee of any such privilege has now the right to sell lottery tickets or similar devices to facilitate the business of the concessionaire, the Commission shall enact laws annulling the privileges or concessions and punishing future exercise of the same by imprisonment or fine, or both.

These instructions may be modified and supplemented as occasion shall arise.

Very respectfully,

THEODORE ROOSEVELT.

HON. WILLIAM H. TAFT,
Secretary of War.

THE TRANSFER OF THE CANAL PROPERTIES TO THE UNITED STATES.

The purchase of the canal properties was completed by the payment to the French Canal Company of \$40,000,000, this sale having been finally authorized by the stockholders of that company on April 23, 1904. The instrument of conveyance, as ratified at this meeting on April 23, 1904, contains the following:

Now, therefore, we, the New Panama Canal Company, represented by Messrs. Marius Bo and Albert Rischmann, in consideration of the payment of the sum of forty million dollars in gold coin of the United States of America to said company on its order or demand, contemporaneously with the delivery of this present conveyance to the two representatives of the United States of America first above mentioned, and the delivery to them of its property in Paris, and the certificates of said Panama Railroad shares (the property of the company not being understood to include the

treasury assets of the company, including deposits of money, outstanding credits and investments in bonds) and the delivery upon the Isthmus of Panama, to an agent of the United States of America, designated by them, or by the Attorney-General of the United States of America, of the remainder of its rights and properties, do hereby acknowledge and confirm the said sale, and do grant, sell and assign, transfer and set over to the United States of America absolutely, in full ownership, the totality, without exception, of the company's property and rights on the Isthmus of Panama and its maps and archives at Paris.

The full document is herewith submitted.

Meanwhile, the United States paid to the Republic of Panama, in accordance with the stipulations of the treaty between the two countries which had been signed on November 18, 1903, the sum of \$10,000,000.

Having thus completed the purchase of the property and being entitled to enter into possession thereof, Lieut. Mark Brooke, Corps of Engineers, U. S. Army, representing the United States on the Isthmus of Panama, was instructed by the Attorney-General of the United States to take possession of all of the canal properties. This transfer of properties was made on the morning of May 4, 1904, and instructions were at once given to Lieutenant Brooke by the Isthmian Canal Commission to continue operations with the same force of employees and laborers as were engaged upon the work under the French Canal Company at that time. Lieutenant Brooke remained in charge of the work until the arrival on the Isthmus of Governor Davis.

Pending the arrival of the Chief Engineer, Governor Davis was placed by the Commission in charge of the canal construction work, and it was carried on with but slight modification of French methods, with Maj. W. M. Black, Corps of Engineers, U. S. Army, at the head of the engineering staff, until Mr. John F. Wallace, the Commission's chief engineer, arrived upon the ground.

SCOPE OF THE COMMISSION'S REPORT.

The full report of the examinations and studies of routes for a canal to connect the Atlantic and Pacific oceans, together with historical facts and a discussion of the merits of the several routes, have been published in the reports of Commissions which have preceded the present Canal Commission. No attempt will be made at this time to review these earlier studies nor even to attempt a full description and discussion of the Panama Canal project, the execution of which has been intrusted to this Commission. This report, being made at a time when the several departments which the Commission has created for a convenient subdivision of its work are still in a formative state, will be restricted to a statement of what has been done since the first meeting of the Commission on March 22, 1904. The studies that must precede the adoption of plans for controlling the Chagres River, and which will serve as a basis for determining the level of the canal, are being vigorously pushed, but they have not been advanced far enough to enable the Commission to reach final conclusions.

ORGANIZATION.

The Commission holds a relation to the canal construction work similar to that of a board of directors to a great railway enterprise, except that the Commissioners are in closer touch with their work and the majority being civil engineers, stand in the relation of consult-

ing and designing engineers to the canal work. The affairs of the Commission are conducted by the Commissioners acting as a body in frequent meetings. These meetings are generally held either upon the Isthmus or at Washington. There have been 30 meetings held on the Isthmus, 27 at Washington, and 2 at New York.

At its Washington office are stationed the Commission secretary, the general counsel, the chief disbursing officer or treasurer, and the auditor.

On the Isthmus are the engineering department, the material and supplies department, and the government of the Canal Zone. The Commission also maintains there a disbursing office and will maintain a branch of the auditor's office.

The health department, which has the importance of an independent department, has, for convenience for administration, and because its duties relate largely to the sanitation of the Canal Zone, been made a subdepartment of the Canal Zone government.

The affairs of the Panama Railroad Company are managed by a board of directors as a separate and distinct enterprise. It does not enter into consideration as a subdepartment of the Commission organization.

The Commission has recently subdivided its work among committees, which, as originally appointed, were as follows:

Committee on engineering plans.—The engineer members of the Commission—Mr. Harrod, chairman, Mr. Burr, Mr. Grunsky, and Mr. Parsons.

Executive committee.—Mr. Parsons, Mr. Grunsky, Admiral Walker.

Committee on engineering.—Mr. Burr and Mr. Parsons.

Committee on finance.—Mr. Hecker and Mr. Harrod.

Committee on legislature.—Mr. Harrod and Mr. Hecker.

Committee on sanitation.—Mr. Grunsky and Mr. Burr.

The chairman of the Commission is ex officio a member of these committees, and General Davis is a member thereof when meetings are held on the Isthmus.

There is at present one vacancy on the Commission and on some of the above-named committees, Col. Frank J. Hecker having resigned on November 16.

The governor of the Canal Zone represents the Commission in all matters relating to Canal Zone affairs and land matters, and supervises the operations of the health department. Maj. Gen. George W. Davis, U. S. Army, a member of the Commission, was appointed governor on June 8, 1904. His executive secretary is Mr. Harry D. Reed.

Hon. Osceola Kyle is judge of the Canal Zone, Mr. J. M. Keedy, prosecuting attorney, and Mr. Tom M. Cooke, collector of revenue.

On May 6, 1904, Mr. John Findlay Wallace was elected chief engineer of the Commission, and assumed his duties on June 1, 1904. The chief engineer has been placed in charge of the Commission's engineering work, of canal construction work, of the construction of waterworks and sewerage systems for Panama and Colon, and, under the direction of the governor, he has charge of the construction and repair of buildings and of Canal Zone public works.

The engineering staff includes the following: Mr. John Seager, secretary to the chief engineer; Mr. W. J. Karner, office engineer; Mr. Carleton E. Davis, engineer in charge of waterworks and sewerage; Mr. Walter E. Dauchy, division engineer; Mr. H. F. Dosé, resident engineer; Mr. Boyd Ehle, resident engineer; Mr. Charles List,

resident engineer; Mr. A. C. Harper, resident engineer; Mr. H. W. Durham, resident engineer; Mr. E. W. Clark, resident engineer; Mr. A. B. Nichol, assistant engineer; Mr. W. B. Ruggles, assistant engineer; Mr. M. O. Johnson, supervising architect; Mr. George D. Brooke, member board of appraisal; Mr. Carl E. Strom, chief mechanical engineer.

The staff of the health department includes the following: Dr. W. C. Gorgas, colonel, U. S. Army, the chief sanitary officer, stationed at Ancon; Dr. John W. Ross, U. S. Navy, director of hospitals, stationed at Ancon; Dr. H. R. Carter, of the United States Health and Marine-Hospital Service, chief quarantine officer, stationed at Ancon; Dr. Louis A. La Garde, major, U. S. Army, superintendent of the Ancon hospital; Dr. L. W. Spratling, surgeon, U. S. Navy, superintendent of the Colon hospital; Mr. Joseph Le Prince, chief sanitary inspector of the Canal Zone; Dr. Lewis Balch, health officer, Panama.

Mr. E. C. Tobey, paymaster, U. S. Navy, is the chief of the material and supplies department. This department is directly under the Commission, but subject to the requirements of the chief engineer as well as of the governor of the Canal Zone.

The Commission's disbursing officer on the Isthmus of Panama is Mr. George C. Schafer, paymaster, of the U. S. Navy.

The principal employees in the Commission's Washington office are:

Mr. D. I. Murphy, secretary; Mr. Rufus A. Lane, assistant secretary; Mr. F. E. Redfern, chief clerk; Mr. C. E. Magoon, general counsel; A. S. Kenny, pay director, U. S. Navy, retired, treasurer; Mr. N. S. Faucett, deputy treasurer; Mr. W. P. Armstrong, auditor; Mr. W. W. Warwick, deputy auditor.

FIRST VISIT OF THE COMMISSION TO THE ISTHMUS OF PANAMA.

The full Commission first arrived on the Isthmus on April 5, and established provisional headquarters in the buildings erected for the residence of Mr. De Lesseps. These are situated on an artificial plateau built upon a coral reef, jutting out from the east shore of Limon Bay. This settlement soon assumed the dimensions of a village, occupied by the officers, warehouses, and quarters of the first French Canal administration. It is known as Cristobal, and lies in the Zone immediately outside the delimitation line established on June 15 around the city of Colon. It has close connection with the Panama Railroad by sidings and spur tracks, and will become of great importance as the Atlantic terminal port of the canal.

A cordial reception was extended the Commission by the authorities of the Republic of Panama and the city of Colon.

During this visit the Commission occupied itself thoroughly with a study of the plans and methods of work as then carried on by the New Panama Canal Company and with an examination of the physical conditions of the proposed canal route and of the adjacent territory, where its auxiliary works will probably be established. In this the Commission was assisted by Maj. Wm. M. Black and Lieut. Mark Brooke of the United States Corps of Engineers, and by the resident representative of the New Panama Canal Company.

Each day, during their stay on the Isthmus, the Commission visited points where work had been done, or was then being done, under the

two French administrations, or where previous studies indicated that there was a choice of location for the canal, or of treatment of the necessary auxiliary works. At the time of this visit the only work in progress was the excavation of the Culebra Cut through the divide between the two oceans. The outfit here consisted of a few French steam excavators and dump trains and a force of about seven hundred men engaged in blasting, loading cars, removing the excavated material from the track and down the slopes of the fill. Neither the equipment nor the organization of the force could be considered as adequate, or in any way fitted for the prompt removal of the great mass of material in the cut.

It was, however, considered advisable, when the Commission assumed control, to continue the employment of the existing force and tentatively to introduce changes of organizations and an increase of equipment. The retention of the labor already acclimated, and, in some degree familiar with the work, was very desirable.

From the examination which the Commission was enabled to make during this visit of the studies under the two French canal administrations, of their plans and of the physical conditions of the Canal Zone, it was evident that new and extended surveys and examinations were required before conclusions could be reached in many of the most important problems of location and construction presented by a canal of the character and dimensions now proposed by the United States.

Under M. De Lesseps and the New Panama Canal Company a large amount of investigation was done of an accurate and scientific kind and affording much valuable information. But its usefulness is limited by the difference of the standpoints from which the work was approached twenty-five years ago and to-day. This, to a large extent, is due to the immense increase of dimensions of waterway demanded by the ships of to-day and the near future. The experience of a generation has also so added to the resources of engineer and contractor that methods then untried are now considered usual and safe.

But the radical difference is that the French canal was a commercial enterprise based on a time concession. It must be completed at a cost on which the traffic would yield a reasonable revenue, and within a limited time. Under these exigencies of resources and of time the original intention of a sea-level canal was abandoned and successive reductions made in the amount of excavation work until a lock canal, with a summit level of 110 feet above mean ocean tide, was seriously proposed, and it was only on the reorganization of the enterprise, and an extension of the time limit, that a return was made to a plan with a summit level of 61.5 feet.

While the French surveys were scientifically undertaken and conducted, yet whenever their results showed that the project which they were intending to develop was too costly or would require more time than was available, the object for their continuations no longer existed. Therefore, while many of them led in the right directions, they did not go far enough to secure the full information which is required for the construction of the larger canal.

The work as now proposed is free from these limitations, and its declared object is to give the most convenient and safe transit from ocean to ocean for the ships of to-day and the visible future, for which any canal proposed by the French companies would be entirely inadequate.

Among the objects of continuation of surveys by the Commission may be mentioned the determination of the practicability of a sea-level canal from the point of view of the greater cost and time required for its completion. Connected with this is the possibility of constructing a storage dam at Gamboa, and of wasting, from the lake above, the surplus discharge of the Chagres River.

If full investigation should show the impracticability of a sea-level canal the information necessary to decide on a summit level and the location and number of locks required for a high-level canal must be acquired by further surveys. Other questions, still unanswered, are the possibility of a dam at Gatun to extend the length of open navigation, the relative advantage of the low-level or Tiger Hill route from Bohio to Gatun, and the Caribbean entrance to the canal at Cristobal.

Under these conditions it seemed to the Commission that the step which at that time would most effectually contribute to the progress of the work was the immediate organization of surveying parties to procure all information bearing on these and other problems.

To carry out this object the Commission returned to the United States on April 29. In the organization of these surveys it was fortunate that many of the most efficient members of the parties who were made familiar with Central America surveying by service under previous canal commissions were anxious to return to the Isthmus.

HARBOR AT CRISTOBAL.

The problem of a suitable interior harbor at the Colon terminus of the canal was never completely solved by either the Old Panama Canal Company or the new, nor was anything more than a tentative plan for purposes of estimate considered by the former Isthmian Canal Commission. The development of such a harbor plan, therefore, was one of the first questions of the entire work to confront the present Commission. This harbor is of special importance from the fact that it must be the point of delivery of a large portion of the plant and material required in the construction of the canal. Inasmuch as those deliveries have already been begun, and as they will continue during the greater part of the actual work of construction, it is of the utmost importance that the harbor plans should be completed at the earliest possible date. This work includes not only the harbor proper immediately inside of the canal entrance, but also the deep channel leading to it through a portion of the shallow waters of Limon Bay.

One engineering party, therefore, was assigned to the duty of making complete surveys and examinations, including many borings throughout that portion of the partially excavated canal prism at and near its entrance and along the center line of the proposed deep channel leading to the canal entrance and over a considerable area between the canal line and Limon Bay for the purpose of conclusively settling alternative locations for the canal in the vicinity of its entrance. These investigations have been actively carried on since the latter part of June and have now been so nearly completed that the development of the final plans for both the deep-water channel and the inner harbor, including about a mile of the canal line immediately within the entrance, will be concluded within the next two or three months. In the meantime temporary facilities for the immediate discharge of

cargo from ships bringing plant and material to the canal entrance at Cristobal are already partially completed.

In connection with this interior harbor excavation a large amount of filling of low ground will be performed within the limits of Cristobal and the city of Colon which has a most important bearing upon the sewer system and other sanitary provisions to be made for the city of Colon. Extended reference is made to this filling in that portion of the report relating to the sewer system for the city of Colon.

PROPOSED DAM AT GATUN AND TIGER HILL ALTERNATIVE.

A second party of engineers was assigned to the work of making surveys and investigations including borings in the vicinity of Gatun, about 5 miles from the Colon end of the canal, with a view to securing data in connection with a possible dam across the Chagres River at that point. The valley of the Chagres is somewhat less than a mile wide at Gatun, and there are outcroppings of soft rock within the limits of the floor of that valley. Question has been seriously raised as to the practicability of building a dam across the Chagres River at this point so as to form a lake possibly 20 or 25 miles long and thus avoid the necessity both of building a dam at Bohio and of excavating the canal prism between Gatun and Bohio. The same engineering party is making examinations by surveys and borings of an alternative line for the canal between Gatun and Bohio by way of Tiger Hill, a distance of about 12 miles. This proposed relocation would save about 1½ miles in distance and would remove the canal line farther away from the Chagres River on to somewhat higher ground. That removal, however, would necessitate carrying the canal within embankment of considerable height in soft ground and it would destroy the availability of a large amount of canal excavation made by the Old Panama Canal Company between Colon and Bohio. This work of investigation along the alternative Tiger Hill line is nearing completion and the requisite data for finally determining the location of this portion of the canal line will be available to the Commission in the near future.

The force having in charge the surveys and examinations on the alternative line between Bohio and Gatun is also making further investigations relating to a possible site for a dam across the Chagres Valley at some intermediate point between those limits. While it is scarcely expected that these investigations will result favorably to such a construction, the outcrop of rock at a number of points has prompted the Commission to secure all possible information of this character.

BOHIO DAM.

The plans of the New Panama Canal Company as far as developed, and the tentative plans of the former Isthmian Canal Commission, contemplated a great dam across the Chagres River near Bohio, about 17 miles from Colon, at the head of the Caribbean tide-level section of the canal. A considerable amount of investigation work has therefore been done at and in the vicinity of this site by both the New Panama Canal Company and the former Isthmian Canal Commission, but far more by the latter than the former. The probable construction of

this dam for the purpose of forming a summit level of a canal with locks is of such importance that it is necessary to make further and extensive investigations, chiefly by boring, to determine at what section of the geological valley the bed rock offers the most advantageous location. The borings thus far made disclose the maximum depth of bed rock to be somewhat greater than is desirable. A large field force began this investigation in the early part of July, and has continued it to the present time. It is still at work, and its operations will be continued until the data for this entire vicinity are complete. This field force is also making other surveys bearing upon the location of the canal a few miles southerly of Bohio.

The floods of the Chagres River are at times so sudden and of such magnitude that from the inception of the work of the Old Panama Canal Company to the close of the investigations of the former Isthmian Canal Commission, it has been considered of the utmost importance to control them effectually, whether the sea-level canal or a canal with locks be constructed. In the former case it would be highly objectionable to receive the flood waters of the river into the canal, as it would be difficult to prevent damage by the currents induced on the one hand, and by the silt, sand, and gravel brought in on the other. Whatever measures might be adopted to control either of these sources of difficulty serious questions would probably result from either one or the other cause. In the case of a canal with locks being built the method of controlling the floods proposed by the former Isthmian Canal Commission would be both simple and effective, but they would require some modification and adjustment if the summit level were as much as 20 or 25 feet lower than contemplated by that body. Again, it would be feasible to create a reservoir on the upper Chagres by building a great dam either at Gamboa, as was at one time contemplated by the Old Panama Canal Company, or at a point farther up the river, as at Alhajuela, as planned by the New Panama Canal Company, as supplementary to whatever means of control might be adopted lower down the river. If a canal with locks should be built, this supplementary reservoir might ultimately be needed for additional water supply. Further, the possibility of diverting the waters of the upper Chagres River southward into the Pacific Ocean through a long tunnel piercing the Cordillera forming the continental divide in that vicinity, or possibly a shorter tunnel through the divide on the northerly side of the Chagres Valley toward the Caribbean, was seriously considered by both the Old and New Panama Canal companies. They even made surveys sufficiently extended to indicate that a tunnel about 10 miles long would be required for the diversion toward the Pacific.

All these earlier investigations were sufficient to disclose considerable data bearing upon the control of the waters of the upper Chagres; they were not far enough to settle conclusively the problems depending upon them and relating to the construction of a dam at Gamboa or to the construction of either of these two diversion tunnels.

CONTROL OF THE CHAGRES ABOVE GAMBOA.

One of the largest field parties first organized by the Commission was fully equipped to undertake and carry to completion all the surveys and investigations which would be needed for the solution of all questions as to the control of the waters of the Chagres River above

Gamboa by the construction of a dam at that point, or at some point farther up the river, or by the construction of either of the diversion tunnels to which reference has just been made. The investigations of this party involved not only reconnaissance or exploration surveys throughout the entire valley of the Chagres River for a distance of about 15 miles above Gamboa, but also the use of complete boring outfits for the purpose of determining subsurface material at the proposed dam sites and tunnel locations. This party began its work in the early part of July and has prosecuted it continually to the present time and is still actively engaged in it. A large amount of conclusive information as to the topography of the rough, wooded country in this part of the Chagres watershed and of the Cordillera and as to the subsurface material down to bed rock at the site of the proposed dam at Gamboa and in its immediate vicinity has been obtained.

(It has been shown by the surveys of the Commission that a portion if not all of the waters of the upper Chagres River may be diverted toward the Pacific Ocean, and thus taken entirely out of the canal prism, by a dam at Gamboa and a tunnel through the Cordillera not more than 7 miles long, or toward the Caribbean by a tunnel not more than about 4 miles long.) A diversion in the latter direction is much less desirable than in the former, for the reason that such a diversion would lead the waters of the Chagres River to the canal near Gatun, about 5 miles from Colon, and make it necessary to care for them throughout that distance probably by an independent diversion canal. Obviously a diversion toward the Pacific is wholly free from any such objection. While it is probable that the work of this field party will have to be continued for a few months longer, the data which it has already secured are sufficient to determine some of the more important features of the problems upon which they bear. The remaining features, depending upon results yet to be obtained, are of a minor character and can readily await the results of further investigations without delaying in any way the development of the plans for the main project.

GENERAL PURPOSES OF ORGANIZATION.

The organization of the department of engineering and construction has been made with two distinct purposes in view. The first of these purposes covered the entire field work, including surveys and investigations necessary for the solution of all problems preliminary to the development of plans for the entire project of a ship canal between the two oceans and the design and construction of waterworks and sewer systems for the cities of Panama and Colon. The second purpose was the formation of the preliminary organization in such a manner as to merge efficiently into the permanent organization ultimately required for the actual construction of all classes of work embraced in the entire engineering construction within the limits of the Canal Zone. The preliminary organization now existing covers the four main field parties conducting the surveys and investigations elsewhere described, the two divisions of the engineering force having in charge the design and construction of the waterworks and sewer systems for Panama and Colon, and an engineering party engaged in such operations at and in the vicinity of the great Culebra Cut as is necessary for the systematic and efficient conduct of the work now in progress there. The operations of these various parties cover prac-

tically the entire canal line between its termini. The important work of surveys and investigations on the upper Chagres River covers its valley between Gamboa, where the course of the river first meets the canal line, and a point nearly 15 miles upstream from Gamboa. This entire work has been vigorously pressed, first under the immediate direction of the managing representative of the Commission from the earliest moment at which it was possible to organize the various field parties and afterwards under the immediate direction of the chief engineer subsequent to his appointment and arrival on the Isthmus. This preliminary work is nearly completed so that the studies for the features of the general project can soon be undertaken.

It is the purpose of the Commission to install and put at work at the earliest practicable moment a considerable number of large steam shovels, which have been purchased in the United States, in order to ascertain by actual trial certain important information regarding practicable rates of progress and of cost of work under the conditions existing along the canal line. Two of these shovels have already reached the Isthmus and will soon be at work. A similar line of experimental or investigation work upon a full scale of construction operations is to be undertaken in connection with the harbor excavation at Cristobal. The Commission regards these full-scale working operations of the highest value in order to determine reasonable requirements for rates of progress and to secure reliable information by actual trial as to reasonable unit costs of subsequent construction.

It has been found feasible to bring into usable condition much more of the machinery and plant turned over by the French company than was at first anticipated. It is the purpose of the Commission to make available in all future construction work as much of this machinery and material as can be advantageously used, and much progress has already been made in this direction, including the reestablishment of a machine shop of considerable capacity at Gorgona, where much heavy construction and repair work has already been done and is being done. The feasibility of excavating the Culebra Cut by the hydraulic method used in much mining work has been considered by the Commission. A thorough study of this method of excavating was made on the Isthmus by Mr. H. A. Bingham, of San Francisco, who has extended experience in this special field of mining work. Mr. Bingham's report on this matter has been made and is on file in the office of the Commission.

WATERWORKS AND SEWER SYSTEM FOR PANAMA AND COLON.

An engineering force for the special purpose of designing and constructing waterworks and sewer systems for the cities of Panama and Colon was organized in the month of June, 1904, and sailed from the city of New York soon thereafter. This force was so organized as to carry on its work under suitable supervision concurrently in both of these cities.

Some partial surveys of the city of Panama had been made, but no surveys or other examinations were available for the city of Colon. While the work already done at Panama was utilized as far as practicable, it was necessary to make essentially complete examinations and surveys for both the cities of Panama and Colon and of the districts about them in which possible sources of water supply might be found.

These surveys were made also with a view to securing the complete data required for the design and construction of a sewer system in each of the two cities.

CITY OF PANAMA.

WATERWORKS.

Prior to the arrival of this field party the chief engineer had taken under consideration the project of supplying water to both cities in conference with Governor Davis, with the result that tentative selection was made for the water supply of Panama at the headwaters of the Rio Grande, about 10 miles from the city, near the southerly extremity of the great Culebra Cut, where the Old Panama Canal Company had a reservoir formed by building a masonry dam across the river, a small stream at that place. Subsequent surveys confirmed the wisdom of this tentative selection, and the Rio Grande Reservoir, with an increased height of dam, was finally adopted for the water supply of Panama. The additions to the existing dam will raise the elevation of the water surface in this reservoir to 212 feet above mean high tide. A 16-inch cast-iron pipe will form the conduit for conveying the water from the Rio Grande Reservoir to a distributing reservoir now in process of construction on the summit of a small hill at Ancon, where the surface of the water in it will be 137 feet above tide. This reservoir has a capacity of 1,000,000 gallons and is constructed with two compartments, so that either may be used while the other is being cleaned or repaired.

This plan affords a gravity supply, the distributing reservoir being high enough to supply all parts of the city of Panama proper by its own head. The buildings at Ancon will also largely be supplied from this same distributing reservoir. There are, however, the hospital and other government buildings which, on account of their increased elevation, will ultimately be supplied by a suitable small pumping plant.

Contracts for supplying the cast-iron water pipes, hydrants, valves, and other fittings have already been awarded to manufacturers in the United States and the material will be shipped at an early date. The work of construction of the entire system is being rapidly pressed toward completion, and it is believed that the first public water ever supplied to the city of Panama will be made available to the people of that city in the early part of 1905.

This water-supply system has been designed on the basis of supplying 60 gallons per head per day for a population of 30,000 people, although it is confidently believed that the source of supply is abundant for a much larger daily draft.

It is not improbable that a reservoir formed by a great dam across the Chagres River at Gamboa or some point farther upstream may be built in the course of the construction of the canal. In that case such a reservoir would be easily available for a water supply for both the cities of Panama and Colon and for all the population on the Canal Zone between these terminal points. If this development should prove to be advisable hereafter the pipe line now being constructed from the city of Panama to the Rio Grande Reservoir would be available throughout its entire length for the new conduit.

The details of connection at the distributing reservoir at Ancon are of such a character that in case of exigency water may be conveyed from the 16-inch conduit directly into the distribution system of the city without passing through the reservoir. The distribution system connecting the distributing reservoir with the different parts of the city has been laid out so as to serve efficiently all the buildings of the entire city wherever it is desirable that house or other building connections should be made. At other points on the streets or other public places where portions of the population may not have sufficient means to make house connections, hydrants or other taps have been provided and located so that water may be readily obtained without other cost than the effort to draw from the taps. All the details of the distribution system will be adapted to the local needs to serve conveniently and efficiently the requirements peculiar to a tropical climate. As the city grows in population and in area covered by buildings the adopted system may readily be extended to meet the needs of the increased population.

Before proceeding with the construction of the water-supply system a considerable number of samples of water from the Rio Grande Reservoir were submitted for both bacteriological and chemical analysis to Messrs. Hazen and Whipple, of New York City, before even the banks and bed of the reservoir had been cleaned of vegetation. Those analyses showed the character of the water to be satisfactory, and it will be found improved in quality by the thorough cleaning of the entire reservoir site of all vegetable matter. If, however, at any time in the future it should prove desirable to filter the water, the vicinity of the distributing reservoir is such as to afford a suitable location for the requisite filters.

This system of water supply for the city of Panama is being designed and constructed in accordance with the best waterworks practice at the present time, so as to secure not only excellence of work and materials but also a quality of water to which no exception can be taken.

CITY OF PANAMA, SEWER SYSTEM.

The city of Panama has no sewer or drainage system. There are a few drains constructed near the surface without much regard to grade, some of which may possibly be considered as crude sewers. Those drains, in consequence of the disregard of proper grades, frequently hold polluted surface water and other organic matter which, under the influence of tropical climatic conditions, make them highly objectionable. It was necessary, therefore, to design and construct an entirely new system of sewers for every portion of the city, having careful regard both to the topography of the city's site and the permanent grades of the streets. Such a plan has been developed under the direction of the chief engineer and is now in process of construction.

A combined system has been adopted, but not with the intention of receiving the entire rainfall. It has been assumed that the greatest discharge of sewage will be on the basis of 60 gallons per head of population per day, and the system has been designed to offer accommodation in addition thereto for 1 inch of rainfall per hour; in other words, the capacity of discharge of the sewer system to be constructed is equal to 60 gallons per head of population per hour. Any rainfall in excess of 1 inch per hour will be discharged through surface drains.

The requisite catch-basins have been provided to accommodate that portion of the rainfall to be taken off through the sewers.

This sewer system, like the distribution system of the water supply, is so designed as to be readily extended into the more outlying portions of the city, as they may be built upon and occupied for either residence or business purposes. The length of the entire system of sewers and the outfalls, as at present designed, has a total of over 92,000 feet, i. e., nearly 18 miles. Provision is made for 200 man-holes, 150 catch-basins, and 10 automatic flush tanks.

The city is divided into three main sewer districts, each one of which has an outfall 18 inches in diameter into the Bay of Panama. The sewage is discharged from the sewer system into the sea water of Panama Bay at points so far removed from high-water mark that it is completely diluted and can not become objectionable at any point on the margin of the city.

The total estimated cost of this sewer system is \$256,450.

CITY OF COLON, WATER SUPPLY.

The city of Colon is built upon a flat sandy island, no part of which is more than about 4 feet above mean sea level. Indeed, considerable portions of it are covered with water at high tides caused by high winds from the north. A portion of the city occupied by officials and other employees of the Panama Railroad and by the foreign consuls is already supplied with water brought by the railroad company through a small iron pipe from a small reservoir containing water of somewhat indifferent quality near Mount Hope, about $2\frac{1}{4}$ miles from the city. The remainder of the population supplies itself from rain water falling upon the corrugated iron roofs of buildings and collected in iron tanks. There is no suitable and sufficient surface-water supply readily available in the near vicinity of Colon. Investigations, however, are being made to discover as soon as possible either some more remote surface source or a subsurface supply from the deep sands and gravels south of the city along the district traversed by the canal line or in some other quarter. The search for wholesome public water supply for Colon has not proved to be so easily successful as that for the city of Panama. The Commission's investigations, however, are being actively prosecuted in all directions, and it is expected that by the early part of the coming year at farthest the problem of palatable water supply for Colon will be solved, although at the present time a report of progress only may be made.

CITY OF COLON, SEWER SYSTEM.

In consequence of the low elevation of the site on which the city of Colon is built, the problem of designing a suitable system of sewers for the city, although a small one, involves some difficulty. It is clear to the Commission that some portions of the town must be filled so as to raise their general surface to a suitable elevation. This filling will be composed entirely of excavation from the inner harbor constituting the entrance to the canal, the plans for which are now being carefully considered and will be completed at an early date.

On the other hand it may be advisable to cut channels through other portions of the island in which the tidal waters may ebb and flow.

Obviously, a final plan for a sewer system can not be elaborated until these fundamental questions of filling are settled. All these investigations are in an active and forward state of progress although not yet complete. While it is obviously imperative to complete both the water supply and sewer systems for the city of Colon at the earliest date practicable, the relatively small population, probably not exceeding 6,000, and the close proximity of the sea water of the bay, make it more easy to control the sanitary conditions throughout the period required for the maturing and execution of satisfactory water and sewer plans than would otherwise be the case.

To sum up the situation, therefore, it may be stated that the requisite surveys and investigations necessary as a basis for complete and satisfactory plans for water supply and sewer systems for the city of Colon are being actively prosecuted and will be completed at an early date.

ENGINEERING AND CONSTRUCTION OPERATIONS.

The engineering work of the Commission had its beginning in the organization of four engineering parties, each in charge of a resident engineer. This preliminary work was begun in the early part of 1904, immediately after the return of the Commission from its first visit to the Isthmus during the month of April. At this time the chief engineer had not been appointed. The first of these engineering parties sailed from New York about the middle of May, 1904, and the remainder of this preliminary force followed soon after.

The engineering force, to which was assigned the work of making surveys for and the construction of waterworks and sewer systems for Panama and Colon, was organized the latter part of June and sailed for the Isthmus shortly thereafter. These preliminary engineering forces, five in all, embraced a total of about 100 men.

Mr. John F. Wallace, chief engineer, as above stated, entered upon his duties on June 1, 1904.

The field work of the engineering force of the Commission naturally being preliminary to construction and having for its first purpose the execution of such surveys and investigations as will furnish the data for the determination of the main features of the entire project of a ship canal between the Pacific and Atlantic oceans, was necessarily planned largely in view of the great amount of work already performed by the old and the new Panama Canal companies and bore some relation to the tentative plans developed by the former Isthmian Canal Commission. At the same time the engineering work of the present Commission was undertaken with the view of treating the entire project with complete independence of anything that had gone before, so far as a general plan for a ship canal was concerned. Broadly stated, the Commission has before it at the outset the work of determining whether this ship canal shall be a sea-level waterway or a canal with locks, and if it is to be a canal with locks at what elevation the summit level shall be placed and what shall be the location, number, and lift of the locks. At the same time the great question of water supply of the canal, the control of the Chagres River, especially when in flood, and certain larger details of alignment, section of prism and plans of harbors at the two termini of the canal and other questions of less magnitude are to be conclusively settled. The disposition of the engineering forces organized at the beginning of the Commission's

work was made so as to attack these problems efficiently and in such order as to lead to the earliest possible beginning of actual work of construction.

When the United States Government took possession of the canal property on the Isthmus the New Panama Canal Company had about 700 men engaged in the work of excavation at the deepest part of the great Culebra Cut, in connection with the occasional use of one or two bucket excavators of the type in use by the Old Panama Canal Company during its period of activity between the years 1881 and 1889. In addition to this excavating machinery, in ill-working condition at Culebra, an immense amount of plant and material of almost every conceivable kind, and which has been fully described in the report of the former Isthmian Canal Commission, came into the possession of the United States Government in the transfer of the canal property. Much of this plant and material is located in warehouses at a number of points on the canal line between Colon and Panama, while the remainder is distributed without cover along considerable portions of the line.

Immediately upon the arrival of the chief engineer at Panama, the working force at Culebra was entirely reorganized so as to bring it into a more efficient condition, the plant was overhauled, repaired, and made more effective, and at the same time a system of field accounts and reports was devised and put into use so that a complete record of progress and cost of all classes of work being prosecuted might daily be maintained. Three other excavators in the vicinity of the Culebra Cut were repaired and brought into effective working condition. This reorganized force has been maintained and improved so that it might be conserved as a nucleus from which the ultimate complete working force of the entire canal construction can be developed.

Up to the month of October this force became smaller than when it was originally turned over by the French company, but owing to the gradual increase of working plant, chiefly by the purchase of large steam shovels from the United States, an additional force will soon be necessitated and engaged. It is expected that this increase of labor force with the increase of plant will be constantly maintained. The revival of the work of construction of the canal and the maintenance of this organized force is proving to be, as was intended, an inviting center toward which efficient laborers are moving.

SANITATION.

Appreciating the importance of taking every possible precaution for the protection of the health of the employees of the Commission on the Isthmus, as well as of the inhabitants of the Canal Zone, the Commission lost no time in organizing a health department. Preliminary steps were taken in April. The Commission on its first visit to the Isthmus was accompanied by Dr. W. C. Gorgas, colonel, U. S. Army; by Dr. John W. Ross, U. S. Navy; by Dr. L. A. La Garde, major, U. S. Army, and an engineer officer of the Army, Capt. (now Maj.) C. E. Gillette—all of whom were detailed for the special service required by the Commission relating to a study of conditions as they existed on the Isthmus at the time of taking possession of the canal properties by the United States.

The medical officers aboved named are of the staff which operated with such signal success during the American occupation of Cuba, and all have found places on the staff of the medical department of the Commission as subsequently organized.

This first inspection of conditions preceded by a few weeks the formal transfer of the canal properties and led to recommendations which enabled the Commission to announce a preliminary organization of the health department almost as soon as it was placed in control of the canal properties and of the Canal Zone. The final organization of the health department was perfected in August.

It was fully realized that the reputation of the Isthmus of Panama for unhealthfulness—whether this reputation was deserved or not—justified, and, in fact, made imperative the adoption of extreme measures for the prevention and cure of disease. Adequate provision has therefore been made to prevent the introduction of contagion, to wage effective war against the disease-spreading mosquitoes, and for the efficient care of the sick. This has been done not only with due regard to the immediate requirements, but the organization of the department is such that it can be enlarged and expanded as may be required to meet any emergency.

The department of health, with jurisdiction extending beyond the limits of the Canal Zone into the cities of Colon and Panama and over the waters adjacent thereto, is a branch of the government of the Canal Zone and has been made an administrative department of the Canal Zone government.

The affairs of the health department are administered by a board of health, composed of four members, as follows: The chief sanitary officer, the director of hospitals, the chief quarantine officer, and the chief sanitary inspector of the Canal Zone.

The chief sanitary officer has been made the executive head of the department, empowered to direct its operations, enforce sanitary regulations, and report to the governor relative to the operations of the department.

Under the chief sanitary officer are the following subdepartments and subofficers: A subdepartment of hospitals, under a director of hospitals, embracing a hospital at Ancon, a hospital at Colon, three emergency hospitals, and several additional dispensaries along the line of the canal; a maritime quarantine service; a sanitary service for the Canal Zone; a Panama health office, and a Colon health office.

There were found upon the Isthmus, as a part of the Canal properties, an extensive hospital established at Ancon, immediately adjacent to Panama, located on the northeasterly slope of the hill, from which it takes its name, and a hospital, or rather several neglected hospital buildings, at Colon. Both of these hospitals were without adequate medical staffs and, in lieu of trained nurses, the Sisters of the Order of Saint Vincent de Paul attended upon the sick.

The buildings of the hospital at Ancon were found to be in fair condition, all, however, requiring more or less repair. These buildings were all originally well constructed, resting upon masonry piers and having tile roofs. They are being repaired and adapted to modern hospital requirements as rapidly as possible.

The capacity of Ancon hospital is about 500 beds, but in case of an emergency sufficient ward space is available to place upward of 700 beds.

Two of the ward buildings at Ancon were found to be in possession of and used by a local organization known as the "Comision de Beneficencia," which was organized for the care of the strangers becoming sick at Panama. The lease of these buildings to this society was terminated by the Commission, and the Commission assumed the care of the patients who were in this hospital.

Besides the hospital buildings already referred to as forming part of the canal properties at Colon, there is at Colon a second hospital owned and operated by the Panama Railroad Company. This hospital is to be transferred to the Isthmian Canal Commission, and will form a part of the Commission's Colon hospital.

The work of repairing and remodeling the hospital buildings at Colon is already well advanced, and some additional structures are being erected, it being the purpose of the Commission to bring the Colon hospital to a capacity of about 300 beds.

In addition to the hospitals at both ends of the canal, emergency hospitals, each with a capacity of four to eight beds, are to be established as may from time to time be required along the line of the canal at points where a considerable number of canal laborers or inhabitants of the Zone may be resident. Three such emergency hospitals have already been authorized, being located at Culebra, at Gorgona, and at Bohio. The physician at each of these emergency hospitals will also be in charge of a dispensary. Two additional dispensaries not combined with emergency hospitals have been authorized.

All employees of the Commission stationed upon the Isthmus are entitled to free medical treatment and medicines. It is proposed to care for the sick in the hospitals in all cases of serious illness. The patients not only receive better care in the hospitals than they could elsewhere, but the special precautions taken at the hospitals to prevent the spread of disease by insects safeguard the public health.

It being a special duty of the board of health to prevent the spread of contagious and infectious diseases and to stamp out, if possible, the malarial types of fever, unusual efforts are being made to destroy the mosquitoes which spread yellow fever, malarial fevers, and other diseases. This work has been intrusted in the Canal Zone to a well organized staff of sanitary inspectors. Water containers are being covered, ponds and pools of standing water are being drained or covered with oil to prevent the breeding of mosquitoes, and special care is taken to dispose properly of all filth accumulations and waste of all kinds. The Commission, after careful consideration, has thought it desirable to incorporate its sanitary rules and regulations in a law which is elsewhere published as a part of this report.

There has also been organized an effective quarantine service and there are now being established thoroughly equipped quarantine stations, one on the island of Flamenco, near Panama, and the other on the hospital grounds at Colon. The quarantine regulations will be found published in the laws of the Canal Zone.

The treaty between the United States and the Republic of Panama makes it incumbent upon the Government of the Republic of Panama to enforce such sanitary rules and regulations, as may be prescribed for Panama and Colon by the United States. The Commission has adopted such rules and regulations, not only for Colon and Panama, but also for the quarantine service at these ports. These regulations

are being put into effect by the proper authorities, and in case of failure to comply therewith the Commission will, as authorized by the treaty, take the necessary steps to enforce the same. The Commission has named health officers for each of the cities of Panama and Colon, whose duties are to supervise the work of sanitation in these cities and to take cognizance of all suspected cases of contagious or infectious disease. The board of health of the Commission is charged with the duty of prompt action in all such cases, it being the policy of the Commission to have all persons afflicted with yellow fever or similar diseases cared for in such a way as to reduce the danger of a spread of the disease to a minimum.

After a careful investigation of the requirements of the health department, it was, at the time of its organization, estimated that the expenditure for repairs to buildings, the erection of new buildings, proper equipment thereof, medicines and supplies, and compensation of the staff of employes would aggregate, in the ten months of service succeeding August, 1904, about \$1,100,000. The expenditures during the next year may possibly exceed \$800,000. It can not now be foreseen whether the expenditures of this department will continue throughout the entire period of the canal construction as the above figures indicate, or whether the experience of the first few years will justify a decrease, or will demand additional allowances. It is confidently hoped by the Commission that the diseases prevalent in the past upon the Isthmus, and which have given it its bad reputation for unhealthfulness, will be brought under control and that epidemics of disease will be entirely prevented.

As soon as the Commission has decided upon the details of the great canal project, steps will be taken to bring an ample supply of water of good quality to every settlement along the line of the canal.

As the Commission is interested in preventing the spread of disease, inquiry has been made relating to the care of the sick by the Panaman authorities. All institutions in which the indigent or afflicted are cared for were found to be in deplorable condition; but there is some promise of improvement. There is a city hospital at Panama, known as the Hospital San Tomas, which is managed by a board of five directors. It has an income of about \$1,500 silver, per month, mainly contributed by the Government of the Republic of Panama. The number of sick in this hospital during last summer averaged about 150. Patients at this hospital are charged for medical attendance and care at rates dependent upon the financial ability of the patient to pay. Soldiers are charged 60 cents silver per day and policemen \$1 silver. The indigent of the Republic of Panama, and those afflicted with chronic ailments, are cared for at Panama in an almshouse, known as "Asilo de Bolivar." This has at present about 70 inmates, and is managed by a committee appointed by the President of the Republic. Its buildings and grounds belong to the Republic. It has a regular income of between \$600 and \$700 silver, per month, in addition to some private subscriptions. Should it ever become apparent that the poor, the aged, the infirm, and vagrants of Panama as well as of the Canal Zone must be cared for by the government of the Canal Zone as a measure to prevent the spread of disease, a plan is in contemplation which will distribute this burden equitably between the two Governments interested.

The Republic of Panama at present has no suitable provision for the care of lepers nor for the care of the insane. There has, however,

recently been made by the Republic of Panama an appropriation of \$50,000 silver for the construction of new buildings in which lepers are to be cared for. The insane are kept confined in a few rooms at the city prison at Panama. It is quite probable that means may be found in the future for the joint care of lepers and the insane by the Republic of Panama and the Canal Zone governments.

In the management of its hospitals and its dispensaries it is the plan of the Commission, as already stated, to grant free treatment, care, and medicines to its employees; all other persons receiving treatment or furnished with medicines are expected to pay.

In the case of such service rendered to employees of the Panama Railroad Company or to those of steamship lines, special rates have been fixed. In other cases the charges made must depend largely upon the ability of the patients to pay.

SYSTEM OF ACCOUNTING.

Being entrusted with the expenditure of large sums of money the Commission has not been unmindful of the fact that full and complete accounting of its expenditures is required, and that disbursement of the funds placed at its disposal must be so safeguarded that the risk of loss by error or by dishonest acts of its employees will be reduced to a minimum. It was not possible to introduce a system of classification of accounts until the Commissioners and the heads of the departments which it had organized had become familiar with their duties and the practical conduct of their affairs, which relate not only to the canal construction work, but also to the governing of the Canal Zone, the levying and collection of taxes and imposts, the protection of the public health in the Canal Zone and in the cities of Panama and Colon, and the construction of sewerage and waterworks systems for these cities. The purchase, care, and issuance of machinery, instruments, material, and supplies also required consideration in the plan of accounting. As the several departments operating under the Commission are not yet fully organized it goes without saying that the system of accounting will remain for some time in a similar process of further development.

The first steps looking toward the adoption of a system of accounting on most advanced lines were taken within a few days after the organization of the Commission. This matter also received attention during the first visit of the Commission to the Isthmus, in April.

As soon as a disbursing officer had been selected, conferences with the representatives of the Secretary of the Treasury and with the Auditor for the State and other Departments were arranged, and along lines suggested by the Commission, a plan of classification of accounts was elaborated and subsequently adopted by the Commission. This could not be done, however, until after the operations on the Isthmus had been sufficiently studied and analyzed. The Commission was therefore accompanied on its August and September trip to the Isthmus by its treasurer (disbursing officer), A. S. Kenny, Paymaster-General, U. S. Navy (retired), and by a deputy auditor, and adopted a classification of accounts on the recommendation of its treasurer. This classification is simple, sufficiently elastic to permit expansion or contraction to any extent hereafter desired, and so arranged that it shows the amount of money expended for all purposes, suitably and

minutely classified. In this system of accounts the expenditures will be grouped in seven main classes: General administration; government of Canal Zone; sanitation; canal construction; land, buildings, and plant; material and supplies department, and deterioration and loss.

Each of these main classes has its subclasses, which are again divided, provision being made at the outset for entries under more than 400 different headings.

As the Commission's work progresses it will always be possible to give precise and correct information of the cost of any portion thereof and to account fully for all moneys received.

The disbursements of money will be made in the method customary with the various Departments of the Government. The disbursing officer of the Commission pays by check upon the United States Treasury. All demands will pass through the office of the auditor of the Commission before being paid.

Disbursing officers are stationed on the Isthmus as well as at Washington, and the auditor will have his duties divided between the Isthmus of Panama and Washington.

In its organization of the government of the Canal Zone the Commission has provided that the disbursing officer of the Commission stationed on the Isthmus shall also be treasurer of the Canal Zone government. It has similarly provided that the Commission's auditor shall be auditor for the Canal Zone government.

The Commission proposes to introduce such systems of supervision, control, and inspection of its employees and their accounts and of the several departments and subdepartments that misappropriation or embezzlement of public moneys can not escape detection, and so far as means can be devised, will be prevented.

MATERIAL, SUPPLIES, AND MACHINERY.

It was found by the Commission, soon after its appointment, that the rapid development of the work and the possession of material acquired by purchase from the French, made necessary the organization of a department of material and supplies. Therefore the Commission, on August 31, then being on the Isthmus, adopted the following resolution:

Resolved, That there shall be on the Isthmus a separate division of the canal organization, known as the material and supplies department, and a head thereof known as the chief of the material and supplies department, who shall report to and be directly responsible to the Isthmian Canal Commission.

The chief of the material and supplies department shall be charged with the receipt, inspection on the Isthmus, custody, care, shipment, transfer, issue, and disposition of all supplies, material, equipage, and floating equipment unissued and not in actual use.

The chief of the material and supplies department shall be charged with a rigid responsibility for the care, protection, and issue of supplies and equipage, and shall store, guard, and protect the same in every way in his power from deterioration and loss. He shall use due diligence in determining the best use to which materials on hand can be put, and shall suggest substitution of such material of cheaper or lower grade when the same can be used to advantage, and in no case shall he issue construction material of recent purchase where supplies on hand and acquired from the Panama Canal Company can, in the opinion of the chief engineer, be used economically.

The governor of the Canal Zone, acting for the executive branch of the government of the Zone, and the chief engineer, acting for the department of engineering and construction, shall have authority to decide on the suitability of any and all supplies furnished, and their requisitions for such materials as are on the Isthmus shall be promptly filled without reference to a higher authority.

The chief of the material and supplies department shall not issue property of any nature without requisition from the department requiring it, nor shall he cause to be purchased, manufactured, or procured in any manner any commodity without the advice and consent of the department for which it is required. He shall afford every facility to the heads of departments to examine material and supplies on hand and to procure information respecting the cost, stock on hand, time of delivery, status of requisition, and similar matters.

The chief of the material and supplies department shall, on or before July 31 of each year, render an annual report to the Commission, brought down to June 30 of said year, and also such special reports as may be called for.

Mr. E. C. Tobey, paymaster, U. S. Navy, who had, up to this time, served as disbursing officer, was appointed chief of this department.

It is now proposed to extend the scope of this department to include a commissary, the service of which shall be limited to the American employees, of whom there are now about 600 on the Isthmus. This number will be largely increased at such time as the general execution of the work is commenced.

While it is not desired to interfere with the local trade in food and other personal supplies, these men can be, with justice, considered as in a position similar to our troops stationed at remote posts, or in our insular possessions—for instance, the battalion of marines now at Emperador—and as entitled to such facilities, comforts, and protection, at reasonable rates, as the Government properly affords to its Army and Navy while on foreign duty.

Connected with the work of this department was the appointment of a board of inventory and appraisal of the material, machinery, and other movable property acquired from the New Panama Canal Company and now on the Isthmus of Panama. The three members of this board were, respectively, appointed by the Commission, the chief engineer, and the chief of the department of material and supplies, and its conclusions are subject to revision by these heads of department. The work of this board is of extreme difficulty, as the subject of the inventory and appraisal is of the most varied character, is in all conditions from worthless to good, and is scattered throughout many storehouses and 50 square miles of jungle. As soon as this survey and inventory is completed it is intended to collect in storehouses, classify, and protect from further deterioration all articles for which a future use can be discovered. The following list of the more important articles is abstracted from the books of the New Panama Canal Company:

Railroad track:		Meters.
Track in place		168,612.40
Rails in store		115,096.10
Total		^a 283,708.50
Decauville track:		
Track in place		6,473.80
Track in store		99,224.16
Total		^b 105,697.96

^a Equals 176.2 miles.

^b Equals 65.6 miles.

Items.	Quantity.	Book value.
		<i>Francs.</i>
Floating apparatus for drilling	1	182,887.50
Suction dredge	2	35,700.00
Boring apparatus	7	54,600.00
Armatures for shaft	780	74,858.75
Hand claps	22	1,085,700.00
Steam claps	14	4,010,580.00
Cistern boats	2	254,360.00
Pump barges	3	189,216.00
Engines for concrete construction	10	73,350.00
Miscellaneous yawls	88	78,850.00
Steamboat "Abellie"	1	9,000.00
Miscellaneous barges	57	1,312,247.00
Steam launches	21	825,991.00
Framing for locks	kilos. 3,321,831	2,178,611.68
Framing for locks	do. 1,877,780	1,444,689.00
Centerings for tunnel	300	108,558.15
Diving bell	1	47,548.98
Brusing mills	20	138,712.50
Pipes in place for water supply	meters. 30,958.50	222,845.20
Miscellaneous dredges	29	14,347,568.50
Hunt elevator	1	85,578.28
Excavator dredges	2	389,362.00
Excavators	86	7,010,707.50
Cast iron for locks	kilos. 11,430,851	6,548,469.50
Miscellaneous cranes	273	6,416,571.00
Hand cars	5	4,650.00
Miscellaneous locomobiles	158	3,099,562.00
Franco-Belgian locomotives	212	11,092,696.00
Decauville locomotives	14	204,000.00
American locomotives	84	1,902,970.88
Locomotives with winch	2	52,500.00
Lorrs	10	4,620.00
Flat barges	10	34,702.50
Motors	10	86,400.00
Miscellaneous rock drills	189	580,163.72
Turntables for track	7	52,500.00
Turntables for Decauville track	129	24,671.25
Miscellaneous pumps	800	1,562,277.11
Bridges	12	3,988,510.82
Pontoons	4	1,116,991.50
Push cars	58	24,496.00
Steam tugs	9	1,212,471.00
Selsmographs	2	4,092.00
Suction dredges	5	260,260.00
Earth-dug transporters	6	824,274.00
Hand winches	202	85,492.20
Steam winches	140	1,452,117.06
Decauville track in place	meters. 6,473.80	75,280.90
Track in place	do. 168,612.40	411,385.30
Dump cars, 6.3 meters	3,906	13,215,984.85
Dump cars, 4.3 meters	658	1,387,582.40
Dump cars, 3.3 meters	8	9,600.00
Cistern cars	18	45,252.00
Tramway cars	4	2,700.00
Trolleys	4,680	1,476,288.00
Decauville track in store	meters. 99,224.16	
Railroad-track rails in store	do. 230,192.25	
Lidgerwood cables	7	224,000.00
Taste and Pichat cables	4	200,000.00
Bridge Bache	1	2,123,250.00
Metallic bridge	1	
Sharpening machines	4	3,080.00
Bending machines	17	20,832.20
Electrical machines	10	71,469.17
Shaping machines	2	2,138.61
Mortising machines	5	27,150.00
Planing machines	12	67,319.00
Punching machines	151	171,480.00
Shearing machines	129	169,674.00
Riveting machines	3	14,250.00
Bolt-screwing machines	23	39,592.50
Miscellaneous machines (cut paper, grind paints)	17	30,774.45
Slide lathes	29	149,755.00
Miscellaneous turning lathes	41	161,809.10
Cupolas	6	14,910.00
Total		98,379,841.60

Value of French franc, 19.5 cents; 98,379,841.60 francs — \$18,987,809.48.

The total value of the property as entered in these books is about \$29,000,000, but it must be understood that this is merely a book value, of which only a small part can be realized by the Commission under the most careful management.

It is satisfactory to report that more of this material than was expected is either in serviceable condition or can be made so by reasonable repairs. The machine shops at Bas Matachin, while not equipped with modern tools, were found in good condition, and are now rendering excellent service in making these repairs. Much of the other materials and equipment, although not abreast with modern invention, can be made more or less useful. For instance, there are about 143 miles of 56-pound rail and a large amount of Decauville track and rolling stock. Probably upward of two-thirds of the 4,000 dump cars on the list can be repaired and remodeled so as to be put to good use. The same is true of many of the locomotives and much of the floating equipment. The locomotives, which are of both American and Belgian build, are light and antiquated, but still available. Of the dredges and derrick boats several have sunk from age and neglect, but of those still afloat the machinery and upper works are fairly good, but in jeopardy from the rotten condition of the hulls, the repair or rebuilding of which is a subject of emergency.

As soon as the Commission was appointed, and before the organization of its several departments was practicable, urgent demands arose for supplies of various kinds. Under this condition it was necessary that some considerable purchases should be made in open market, or by the invitation of propositions from well-known dealers in various parts of the country. Great care was taken, in the issue of these invitations, to avoid partiality to individuals or to localities, and in all cases the freest practicable competition was sought. Although this is a method of purchase recognized and approved by the Government as conducive to its interest in cases of emergency, and although the instances in which it was used by the Commission were, in its opinion, those for which it was intended by the Government, yet the Commission at all times had the intention of resorting to the method of public advertisement as soon as practicable and to the greatest extent possible. Therefore, at its meeting of August 18, while the Commission was on the Isthmus and engaged in the organization of its various departments, it was resolved:

That hereafter, so far as practicable, all purchases of machinery, material, and supplies shall be made after due advertisement and competition.

This policy has since controlled the Commission in all its purchases, except those of an extremely small amount or those similar to anaesthetics or disinfectants urgently needed at the hospitals. Even those will be discontinued as soon as the experience of the heads of departments enables them to more fully foresee all of their needs.

PANAMA RAILROAD.

Part of the property sold to the United States Government by the Canal Company was 68,887 shares of the capital stock of the Panama Railroad Company. As the total number of shares was 70,000, the Government acquired an interest amounting to 98½ per cent of the whole.

The Panama Railroad has had a long and eventful history. As early as 1848 the Republic of New Granada granted to W. H. Aspinwall, John Lloyd Stephens, Henry Chauncy, and associates, the exclusive privilege of establishing a railroad between the two oceans across the Isthmus, and agreed that during the continuance of this exclusive privilege the Government of New Granada would neither construct nor permit others to construct a maritime canal without the consent of the railroad company. In the following year the legislature of the State of New York by a special act incorporated the Panama Railroad Company, with full powers to construct the railroad contemplated by the concession of the Republic of Granada, and to purchase and navigate such vessels as might be proper to use in connection with the said railroad. The Panama Railroad Company has continuously existed and exercised its rights under that act, and one amendatory thereof passed in 1855, fixing the amount of the capital stock. In 1850 the Government of New Granada and the Panama Railroad Company entered into a contract covering the operation of the road, the construction of which was at once undertaken and completed before 1855.

The Government of New Granada having given place to the Republic of Colombia, the latter, in 1867, gave a new concession to the Panama Railroad Company. In the case of similar concessions it has been usual for the grantor country to aid by subsidy or guarantee the grantee company. The Panama Railroad Company on the other hand, except by the receipt of certain lands along the route, instead of receiving aid has been compelled to pay to Colombia \$250,000 annually, and "to transport free of charge the troops, chiefs, and officers, and their equipage, ammunition, armament, clothing, and all similar effects that may belong to, are or may be destined for the immediate service of the Government of the Republic or of the State of Panama, as also their officials in service or in commission, and those individuals who, with their families and baggage, may come to the country in the character of emigrants, and of new settlers with the permanent character of such for account of the Government, up to the number of 2,000 annually."

When the property purchased from the Canal Company was turned over to the United States the railroad consisted of 47.65 miles of single track between Colon and Panama. In addition to which and including the yards at Colon, Panama, and La Boca there were 26.07 miles of sidings. The general condition of the roadway and buildings is fair. The railroad equipment consisted of:

Locomotives:	
Road	24
Switch	11
Passenger cars:	
Special	5
First class	8
Composite, first and second class	2
Second class	9
Baggage	7
Freight cars:	
Box	584
Coal	173
Flat	151
Miscellaneous:	
Local express	22
Wrecking	1

Miscellaneous—Continued.

Caboose	5
Specie	2
Water	9
Stock	9
Road department	11
Steam pile driver	1

Nearly all this equipment is old, and consequently its condition is poor, considerable repairs being needed. Of the locomotives 11 were in good condition, 8 in service needing light repairs, 13 in service needing general repairs, 5 out of service undergoing general repairs, and 3 condemned. Of the cars 5 passenger, 2 baggage, 30 box, 50 coal, and 40 flat required general repairs. The company owns fairly well-fitted and equipped shops for the repairs of its equipment. These are located at Colon.

Of floating equipment the company owned three steamships:

Name.	Built.	Gross tonnage.	Length.	Breadth.
			<i>Feet.</i>	<i>Feet.</i>
Alliance	1886	2,985	303	42.0
Advance	1883	2,604	295	38.4
Finance	1883	2,603	290	38.4

These ships were all built by the Delaware River Iron Shipbuilding and Engine Works, of Chester, Pa. Previous to the sale of the railroad the last two ships were withdrawn from the route for extensive repairs, which were completed during the past summer, when the vessels resumed running. In the work of repairs the ships were given new boilers, masts, decks, cabins, keels, and plates wherever necessary in order to secure a rating of A 1 until 1908. The repairs cost, for the *Advance*, \$183,529.17, and for the *Finance*, \$187,347.95.

During the time these two steamers were withdrawn from service the company maintained the line by chartering the *City of Washington*, the *Yucatan*, and the *Seguranca*. On the return of the *Finance* and the *Advance*, the *City of Washington* and the *Seguranca* were returned to the owner, the *Yucatan* being kept in service, as four ships are required to equip the route. In November the *Finance* lost her rudder, necessitating her withdrawal from the line for several weeks for repairs. This deficiency has been made good by a temporary rechartering of the *City of Washington*. This steamer, while waiting to be docked, has since been further damaged by fire.

In addition to the right of way and ordinary equipment of the road the railroad company owns the island of Manzanillo, upon which the city of Colon is situated, containing approximately 700 acres, except 4 hectares reserved for the use of the Colombian Government, the wharf of the Royal Mail Steam Packet Company, and that of the Pacific Mail Steamship Company.

At Colon it has offices, residences, stations, freight houses, wharves, hotels, church buildings, shops, and buildings rented to employees. The number of buildings belonging to the company is about 70. A large part of the land which is not needed by the company at Colon is leased to tenants upon one, five, and ten year terms.

At Panama the company owns its station, two wharves, round-houses, shops, and several large parcels of land within the limits of

the city proper. The number of buildings belonging to the company is about 26.

At La Boca the company owns one wharf, and has secured from the Old Panama Canal Company a lease in perpetuity, at an annual rental, of the lands necessary for the branch line running from La Boca to Panama, and for its terminal requirements up to and at La Boca, as well as all of the buildings and materials thereon necessary for the operation of the terminal.

The above wharf was constructed partly out of moneys advanced by the Panama Canal Company and partly out of funds produced by the sale of Panama railroad bonds, and out of the revenues of that company. The pier was completed in 1900, but subsequently some additional work, chiefly in the way of installing plant, was done. The total cost of pier and plant was \$2,206,637.13. The number of buildings owned by the company is about 6.

In Panama Bay the company owns by purchase an undivided half interest in the islands of Naos, Culebra, Perico, and Flamenco with the Pacific Mail Steamship Company.

Along the line of road the company owns large parcels of property, part of which is at the present time leased to outside parties. The station and other buildings owned by the company are in number about 38.

The results of the operation of the Panama Railroad have fluctuated between quite wide limits, owing to variations in existing traffic contracts and the condition of construction of work along the canal.

The fiscal year of the company ends December 31. The results of each year during the last ten years, including eight months of the present fiscal year—that is, up to and including August 31—are as follows:

INVESTIGATION OF PANAMA CANAL MATTERS.

2449

Statement of gross receipts, operating expenses, fixed charges, dividends, etc., of Panama Railroad Company for the years 1895 to 1904, inclusive.

[illegible]

There was no special balance sheet of the company prepared at the time of its taking over, the last previous balance sheet being that taken when the books of the company were closed at the end of the fiscal year, namely, December 31, 1903. This balance sheet, as shown by the reports of the company, is in full as follows:

TABLE A.—Balance sheet, December 31, 1903.

DR.		
Cost of road, real estate, and equipment.....		\$12,046,258.82
New terminal at La Boca.....		
Floating equipment:		
Steamers Alliance, Finance, and Advance, reduced value December 31, 1902.....	\$267,419.27	
Tugs and lighters, reduced value December 31, 1902.....	\$318,137.53	
Deduct depreciation fund for tugs.....	2,100.00	
	\$16,087.53	563,456.89
Total.....		12,628,715.12
Bonds in Treasury:		
One hundred and fifty-three 6 per cent Panama Railroad Company sinking fund subsidy bonds.....	153,000.00	
Nine hundred and thirty-five 4½ per cent twenty-year gold sinking fund bonds.....	936,037.50	1,089,037.50
On deposit with financial agents for redemption of bonds: 6 per cent subsidy bonds.....		10,000.00
Advance of subsidy to Republic of Colombia.....		887,000.00
Improvement and construction accounts.....		56,570.50
Fund for replacement of boilers and special repairs to steamers and tugs.....		24,002.50
Current assets:		
Cash in banks and with agents.....	489,994.66	
Coal and supplies on hand.....	176,412.86	
Due from connecting companies.....	108,060.58	
Due from United States Government.....	24,437.16	
Due from Republic of Colombia.....	4,999.98	
Due from companies and individuals.....	48,078.50	
Accrued interest on deposits.....	18,682.96	
Accrued interest on securities owned.....	1,777.50	
Unadjusted accounts.....	12,513.83	
Prepaid insurance and charter of steamers.....	17,566.93	
		877,553.41
Total.....		15,561,879.12
CR.		
Capital stock.....		7,000,000.00
4½ per cent twenty-year sinking fund gold bonds (authorized issue, \$4,000,000):		
Issued to date (4,000 bonds, less 701 bonds previously redeemed) ..	3,299,000.00	
Less drawn for redemption in 1903.....	140,000.00	
		3,159,000.00
Total capital stock and mortgage liabilities.....		10,159,000.00
6 per cent gold fund subsidy bonds.....		887,000.00
Bonds drawn for redemption not presented for payment: 6 per cent subsidy bonds.....		10,000.00
Accrued interest on bonds:		
4½ per cent twenty-year gold bonds (2,246 bonds).....	26,267.50	
6 per cent subsidy bonds.....	8,870.00	
		34,137.50
Funds for redemption of bonds:		
4½ per cent twenty-year gold bonds.....	62,946.78	
6 per cent subsidy bonds.....	76,005.00	
		138,951.78
Due Republic of Panama.....		21,875.00
Allowance to cover excess interest over contract rate on 4½ per cent bonds sold to prepay indebtedness due contractors, new terminal at La Boca, on October 15, 1906.....		28,061.95
Current liabilities:		
Isthmus drafts not presented.....	11,100.95	
Coupons not presented.....	1,562.50	
Audited vouchers.....	97,941.51	
Unclaimed dividends.....	119.00	
Due deceased or missing employees.....	2,199.02	
		112,922.98
Balance to credit of profit and loss.....		4,191,929.91
Total.....		15,561,879.12

Eight hundred and eighty-seven 6 per cent gold sinking fund subsidy bonds of \$1,000 each, amounting to \$887,000, issued November 1, 1880, fall due November 1, 1910.

To meet this bonded indebtedness, \$225,000 annually of the Colombian Government subsidy was pledged till March 27, 1908, the same to be applied by the company, first, to the payment of the interest, and second, as a cumulative sinking fund for the redemption of the principal, the bonds to be drawn yearly in September to an amount equal to the then surplus of the subsidy sinking fund, the drawn bonds to be paid on November 1 after each drawing, and thereby redeeming the whole issue in 1908.

S. DEMING, *Treasurer.*

TABLE B.—*Profit and loss account, December 31, 1903.*

Dr.	
To one hundred and sixteenth dividend.....	\$140,000.00
one hundred and seventeenth dividend.....	140,000.00
one hundred and eighteenth dividend.....	280,000.00
operating expenses.....	1,746,852.97
appropriations for depreciation of tugs and special repairs of steamers and tugs...	13,650.00
fixed charges.....	502,645.00
uncollectible accounts, etc., written off.....	29.85
balance, assets over liabilities, December 31, 1903.....	4,191,929.91
Total.....	7,015,107.78
Cr.	
By balance December 31, 1902.....	4,201,587.09
gross earnings.....	2,664,216.27
44 per cent twenty-year sinking fund gold bonds redeemed.....	140,000.00
adjustment of accounts of previous years.....	8,764.87
value of fittings taken from dismantled lighters, etc.....	640.00
Total.....	7,015,107.78

In the above balance sheet there will be noticed the items "Advance of subsidy to Republic of Colombia," and the withdrawal of certain 6 per cent subsidy bonds. These items arise from the fact that one of the obligations devolving upon the Panama Railroad Company by its contract of concession with the Republic of Colombia was the annual payment of \$250,000, \$25,000 of which was made directly to the Department of Panama. To cover the payment in advance of the subsidy due the Republic of Colombia up to the year 1908, the company issued 3,000 sinking fund 6 per cent subsidy bonds, and each year applies \$225,000 to the payment of interest on the outstanding bonds and the balance to the redemption of the bonds themselves.

On December 31, 1903, 2,113 had been redeemed by the provisions of the sinking fund, 153 had been purchased by the company and were held in its treasury, and 734 were in the hands of the public.

During the year 1904 the annual appropriation of \$225,000 was devoted to the payment of interest on outstanding bonds and to the redemption of 172 bonds; of that number 27 were among those belonging to the company's treasury.

Therefore, at this time the status is: 2,285 redeemed by provisions of sinking fund, 126 held by the company's treasury, and 589 held by the public.

All of these bonds outstanding will be redeemed by the provisions of the sinking fund in the year 1908.

The company also has a first mortgage bond issue, bearing interest at 4½ per cent. On December 31, 1904, the status was as follows:

Redeemed by annual sinking-fund drawings (\$150,000).....	841
Held by the public.....	2,224
Held by the company's treasury.....	935

During the year 1904 the trustees of the mortgage called for redemption 140 bonds, to be paid for out of the annual appropriation of \$150,000, provided for by the indenture of mortgage; and the company issued 265 bonds to the public to pay for repairs to the *Advance* and *Finance*. These bonds were sold as required by a contract made in October, 1903. The balance of the money was taken for a "reserved fund of depreciation of steamers," amounting to \$102,750. Therefore, at the present time, the status is:

Redeemed by annual sinking-fund drawings (\$150,000)	981
Held by the public	2,372
Held by the company's treasury	947
Total issue	4,000

During the year the Canal Commission out of its own funds has purchased 100 additional shares of capital stock at par, thus making the total Government holdings 68,987 shares, leaving but 1,013 outstanding in the hands of private individuals in this country and abroad. This is such a small amount of stock the Commission feels that the Government should own the whole capital, and the Commission stands ready therefore to purchase any further shares that may be offered at par. In view of the average dividends that have been paid since 1900 and of the certainty that the business of the company will much diminish on the completion of the canal, the price of par is certainly liberal. The small number of shares involved, however, justify the liberal offer in order that they may be acquired.

It is too early yet to make any recommendations in regard to the policy to be followed in the future management of this company. During the construction of the canal the railroad will necessarily be a large and valuable adjunct, but on the completion of the canal it will become merely a local line between the cities of Colon and Panama.

Pending the adoption of a general policy for the management of the company, the Commission has turned its attention to the question of local rates on the Isthmus which it is expected will soon be revised. Partly on account of the vast amount of free transportation furnished under the agreement with the Republic of Panama, as given above, the railroad company has been obliged to charge high local rates for both passengers and freight. As an indication of the abuse to which this free transportation has been carried, during the year 1903 there were 4,633 first-class paying passengers and 11,098 passengers and 6,601 troops carried free. Steps have been taken looking to a reduction of this free transportation abuse to proper and reasonable limits.

With the activity that is certain to prevail on the Isthmus during the construction of the canal, it is obvious that the present steamship equipment will be inadequate to meet the demands of passenger and freight traffic. The directors of the company have ordered plans prepared for new and additional steamers, but under the direction of the Commission no action has yet been taken looking to their construction. This whole question of the development of the company's property is now being considered by the Commission, but no conclusion can be arrived at until a decision has been reached in regard to the proper method of constructing the canal, to which the railroad is necessarily subservient.

The management of the railroad company is vested, according to the charter, in 13 directors; 7 of these directors have resigned and

their places have been filled by the election of the members of the Canal Commission, and these now constitute a majority of the board. The present constitution of the board is as follows: Edward A. Drake, J. Edward Simmons, Samuel M. Felton, J. H. Parker, William Nelson Cromwell, Vernon H. Brown, John G. Walker, William H. Burr, C. Ewald Grunsky, William Barclay Parsons, G. W. Davis, B. M. Harrod, one vacancy (Canal Commissioner).

GOVERNMENT OF THE CANAL ZONE.

The act of Congress approved April 28, 1904, provided as follows:

That until the expiration of the Fifty-eighth Congress, unless provision for the temporary government of the territory acquired by the United States from the Republic of Panama by the terms of the treaty ratified on the twenty-sixth day of February, nineteen hundred and four, be sooner made by Congress, all the military, civil, and judicial powers exercised by the officers of the existing government of the said territory or granted by the terms of said treaty to the United States, shall be vested in such person or persons, and shall be exercised in such manner, as the President of the United States shall direct for the government of said territory, and maintaining and protecting the inhabitants thereof in the free enjoyment of their liberty, property, and religion.

The letter of the President placing the Isthmian Canal Commission under the supervision and direction of the Secretary of War and defining the jurisdiction and functions of the Commission contains the following:

I direct that all the work of the Commission done by virtue of powers vested in me by the act of Congress approved June 28, 1902, in the digging, construction, and completion of the canal, and all the governmental power in and over said Canal Zone and its appurtenant territory, which by virtue of the act of Congress approved April 28, 1904, and these instructions shall be vested in said Isthmian Canal Commission, shall be carried on or exercised under your supervision and direction as Secretary of War.

Subject to the limitations of law and the conditions herein contained the Isthmian Canal Commission are authorized and directed:

1. To make all needful rules and regulations for the government of the zone and for the correct administration of the military, civil, and judicial affairs of its possessions until the close of the Fifty-eighth Congress.

* * * * *

The laws of the land, with which the inhabitants are familiar and which were in force on February 26, 1904, will continue in force in the Canal Zone and in other places on the Isthmus over which the United States has jurisdiction until altered or annulled by the said Commission, but there are certain great principles of government which have been made the basis of an existence as a nation which we deem essential to the rule of law and the maintenance of order, and which shall have force in said zone. The principles referred to may be generally stated as follows:

That no person shall be deprived of life, liberty, or property without due process of law; that private property shall not be taken for public use without just compensation; that in all criminal prosecutions the accused shall enjoy the right of a speedy and public trial, to be informed of the nature and cause of the accusation, to be confronted with the witnesses against him, to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel for his defense; that excessive bail shall not be required nor excessive fines imposed, nor cruel or unusual punishment inflicted; that no person shall be put twice in jeopardy for the same offense, or be compelled in any criminal case to be a witness against himself; that the right to be secure against unreasonable searches and seizures shall not be violated; that neither slavery nor involuntary servitude shall exist except as a punishment for crime; that no bill of attainder or ex post facto law shall be passed; that no law shall be passed abridging the freedom of speech or of the press or of the rights of the people to peaceably assemble and petition the government for a redress of grievances; that no law shall be made respecting the establishment of religion or prohibiting the free exercise thereof: *Provided, however,* That the Commission shall have power to exclude from time to time from the Canal Zone and other places on the Isthmus,

over which the United States has jurisdiction, persons of the following classes who were not actually domiciled within the Zone on the 26th day of February, 1904, viz: Idiots, the insane, epileptics, paupers, criminals, professional beggars, persons afflicted with loathsome or dangerous contagious diseases; those who have been convicted of felony, anarchists, those whose purpose is to incite insurrection, and others whose presence it is believed by the Commission would tend to create public disorder, endanger the public health, or in any manner impede the prosecution of the work of opening the canal; and may cause any and all such newly-arrived persons or those alien to the Zone to be expelled and deported from the territory controlled by the United States and the Commission may defray from the canal appropriation the cost of such deportation as necessary expenses of the sanitation, the police protection of the canal route, and the preservation of good order among the inhabitants.

The Commission may legislate on all rightful subjects of legislation not inconsistent with the laws and treaties of the United States so far as they apply to said Zone and other places, and the said power shall include the enactment of the sanitary ordinances of a preventive or curative character to be enforced in the cities of Colon and Panama and which are contemplated and authorized by article 7 of said Canal Convention. Such legislative power shall also include the power to raise and appropriate revenues in said Zone; and all taxes, judicial fines, customs duties, and other revenues levied and collected in said Zone by or under the authority of said Commission shall be retained, accounted for, and disbursed by said Commission for its proper purposes. The members of said Commission to the number of four or more shall constitute a legislative quorum, and all rules and regulations passed and enacted by said Commission shall have set forth as a caption that they are enacted by the Isthmian Canal Commission, "By authority of the President of the United States."

The Commission shall hold its regular quarterly meetings at the office of the Commission, either in Panama or at a branch office in Washington, and special meetings may be held at the pleasure of the Commission.

All laws, rules, and regulations of a governmental character enacted by the Commission hereunder shall be submitted to you for your approval, and should your approval be withheld from any such law, rule, or regulation, then from that time the law, rule, or regulation shall thereafter have no force or effect.

The foregoing admonition required the Commission to establish within the Canal Zone sufficient guaranties for the maintenance of the privileges guaranteed by the bill of rights. Experience has demonstrated that the most effective of such guaranties is a civil government within which the three branches of government are separate and distinct; with this fact in mind the Commission, by appropriate legislation, provided a government for the Canal Zone divided into three branches, to wit, legislative, judicial, and executive.

LEGISLATIVE BRANCH.

The powers of the legislative branch of government are exercised by the Isthmian Canal Commission, pursuant to the order of the President vesting that body with legislative authority.

JUDICIAL BRANCH.

The powers of the judicial branch (Act No. 1) are exercised by a supreme court, three circuit courts, and five municipal courts.

The supreme court is composed of three justices. Each of the three circuit courts is presided over by a justice of the supreme court sitting as a trial judge. Each of the five municipal courts is presided over by a municipal judge.

The judges are paid salaries. The salaries of the justices of the supreme court are paid from the Zone treasury; the salaries of the municipal judges are paid from the municipal treasuries.

The supreme court and each circuit court has a marshal and a clerk. A law was enacted (No. 13) authorizing the captain of the Zone police force to exercise the powers and perform the duties of the marshal of

the supreme court and the marshals of the circuit courts until those positions are duly filled by permanent incumbents.

Either justice of the supreme court may sit as the judge of any or all of the circuit courts. One justice of the supreme court has been appointed and has entered upon the discharge of his duties. Under the provisions of Act No. 1 he is authorized to hold court in each of the three judicial circuits into which the Zone is divided. Terms of court have already been held in each of said three circuits and numerous cases heard and determined. It will be seen that the plan adopted by the Commission attempts to reduce the expenses of the judicial branch to a minimum and at the same time provide for such development as may reasonably be expected. Probably for a time the supreme court and the circuit courts will have little to do except in criminal matters, but the influx of a large number of people and the varied interests of contractors, employees, and camp followers is quite certain to induce litigation.

The Commission consider that the organization of the judicial branch would be incomplete unless provision was made for the exercise of the right of appeal from the judgment of the trial court. Each of the measures introduced in the last Congress providing for the establishment of government in the Canal Zone contain such provisions; several such measures provided that appeals from trial courts in the Zone should be had to some one of the Federal courts of the United States. None of these provisions were enacted by Congress. The Commission is without authority to confer a new jurisdiction upon a Federal court of the United States. The Commission could not, therefore, do otherwise than to make provision for a Canal Zone supreme court. It is not, however, necessary that the supreme court should be organized until litigation in the Canal Zone requires it; but necessity arising, the judgeships, temporarily vacant, can be filled and appeals considered.

Should it be determined by Congress that appeals from the local courts should be taken to a court sitting in the United States, whereby at some inconvenience to litigants there would be a saving of the salaries of two judges and of a number of minor court officials, the Canal-Zone law can be modified. It appears desirable to the Commission that this matter be settled at an early date, before the organization of the supreme court on the Zone, and the appointment of additional judges becomes imperative.

EXECUTIVE BRANCH.

The executive branch, as organized by act No. 8, enactments of the Isthmian Canal Commission, consists of the following offices: Governor, executive secretary, treasurer, and auditor.

There are also the following departments of the executive branch:

Department of health, composed of the sanitary service, hospital service, maritime-quarantine service, health officer for the city of Panama, and health officer for the city of Colon.

Department of revenues, composed of the customs service, internal revenue service, and postal service.

Department of justice, composed of a prosecuting attorney and not to exceed three deputies.

Department of police was originally composed of 1 captain, 2 clerks, 2 lieutenants, 4 sergeants, and 69 privates. This organization

was subsequently somewhat modified, and it is anticipated that within the next year the police force will require some augmentation.

Bureau of education, charged with matters relating to schools and public instruction, the affairs of which bureau have been placed in the hands of the governor with power to act.

The governor has been appointed by the President from the membership of the Commission.

The duties of the treasurer of the Zone are being performed by the disbursing officer of the Commission stationed in the Zone.

The auditor for the Commission is the auditor for the Zone government and the service is performed by the office force of that official.

MUNICIPALITIES.

The Zone has been divided into five municipalities:

(Act No. 7) Ancon, Emperador, Gorgona, Buenavista, and Cristobal. The affairs of each municipality are to be administered by a mayor, secretary, treasurer, municipal judge, and council of six. The attempt has been made to make the municipalities autonomous and self-supporting. They are given the power to impose land taxes not to exceed 1 per cent of valuation (one-half of which tax must be devoted to school purposes), and license or privilege tax on numerous occupations.

The mayor, treasurer, secretary, and membership of the council are salaried officers. The incumbents are appointed by the governor of the Zone. The municipal ordinances are subject to the approval of the governor.

The municipal act went into effect November 1, 1904, and the municipalities are now organized thereunder.

The organization above outlined is believed to be adequate for existing requirements. It is as economical as conditions permit, and may be expanded as occasion shall arise.

LEGISLATIVE ENACTMENTS.

The Commission have enacted the following:

No. 1.—An act to provide for the organization of a judiciary and the exercise of judicial powers in the Canal Zone, Isthmus of Panama, and for other purposes.

No. 2.—An act authorizing the appointment of notaries public, defining their duties, fixing their terms of office, prescribing their fees, and for other purposes.

No. 3.—An act reciting an Executive order of the President of the United States, and to provide for the suppression of lotteries and similar enterprises in the Canal Zone, Isthmus of Panama, and for other purposes.

No. 4.—An act to prohibit gambling in the Canal Zone, Isthmus of Panama, and to provide for the punishment of violations thereof, and for other purposes.

No. 5.—An act to authorize the alcaldes of the several municipalities of the Canal Zone, Isthmus of Panama, temporarily to continue to exercise the judicial powers and jurisdiction heretofore exercised by them.

No. 6.—An act authorizing the exercise of the right of expropriation within the Canal Zone, Isthmus of Panama, as to real estate and immovable property, and as to property that is partly personal and partly real, and providing the method of procedure for exercising that right.

No. 7.—An act to provide for the organization of municipal governments in the Canal Zone, Isthmus of Panama.

No. 8.—An act to provide for the organization of the executive branch of the government of the Canal Zone, Isthmus of Panama.

No. 9.—An act to provide sanitary rules and regulations for the Canal Zone, Isthmus of Panama.

No. 10.—An act to provide maritime quarantine regulations for the ports and harbors of the Canal Zone, Isthmus of Panama.

No. 11.—An act designating the days which shall be observed as public holidays in the Canal Zone, Isthmus of Panama.

No. 12.—An act creating a penitentiary for the Canal Zone, Isthmus of Panama.

No. 13.—An act to provide for the temporary performance of the duties of the marshal of the supreme court, marshals of the circuit courts, clerk of the supreme court, and clerks of the circuit courts of the Canal Zone, Isthmus of Panama.

No. 14.—An act to establish a Penal Code for the Canal Zone, Isthmus of Panama.

No. 15.—An act to establish a Code of Criminal Procedure for the Canal Zone, Isthmus of Panama.

No. 16.—An act prescribing a method of determining the salaries of army and navy officers and of officers of the United States Public Health and Marine-Hospital Service employed by the Isthmian Canal Commission and stationed on the Isthmus of Panama.

Acts Nos. 17, 18, 19, and 20 are amendatory of prior acts.

The foregoing acts have been printed and a copy of said publication is transmitted herewith.

These laws have been enacted with sincere desire to exhibit fidelity to the principles upon which our Government is based, and to promote the welfare of the people and territory subject to their jurisdiction.

In addition to the foregoing, the Commission adopted for recommendation to the proper authorities of the Republic of Panama for such legislation as may be necessary, the following: 1, sanitary rules and regulations for the cities of Panama and Colon; 2, maritime quarantine regulations for the harbors at Panama and Colon.

The rules and regulations so recommended by the Commission have been adopted by the Republic of Panama and are now in force.

Proper provision for the sanitation, quarantine, and other measures for preventing the introduction or spread of diseases within the Zone or Isthmus, is of such paramount importance that especial investigation was made and care taken in formulating the laws, rules, and regulations adopted with reference to that subject, and in providing the agencies by which they were to be executed.

The Penal Code and the Code of Criminal Procedure enacted for the Zone are adaptations of the codes now in force in Porto Rico, where they have been in operation several years and have proved satisfactory.

It was necessary to change almost every section, to eliminate large portions, and insert numerous provisions to meet special conditions existing in the Zone, or to supply matters omitted from the Code of Porto Rico by reason of the fact that certain Federal laws of the United States are in force in Porto Rico.

Much of the Porto Rican Code of Criminal Procedure related to juries. Trial by jury is not established by the code enacted by the Commission for the Canal Zone; but provision is made that in cases wherein the death penalty or imprisonment for life may be inflicted the circuit judge must call in two municipal judges, and if for any reason one or both of said judges can not sit in the trial, he must call one or two mayors, and if he can not secure two associates from these sources, he must call in two resident taxpayers. The circuit judge and the two associates so secured hear the testimony and determine the questions of fact; the circuit judge alone determines the questions of law.

In considering proposed legislation, the Commission adopted the plan of first examining the laws of the Republic of Panama on the subject, and for that purpose many of the laws, or important parts thereof, were translated; thereafter examination was made of the Philippine and Porto Rican laws on the subject, if any existed, and then exami-

nation was made of the Federal statutes and the State statutes of the United States, and from these several sources the enactments were evolved.

Not all the laws for which there is need have been enacted. Additional legislation is needed to provide for taxes on land, internal-revenue taxes, registration of land titles, court of land titles, and a civil code.

The Commission have deferred action on these several subjects until they could acquire full and complete knowledge of conditions and ascertain what was required to meet the necessities sought to be remedied. The investigation of these several matters is now in progress and the Commission are confident that the required enactments will be adopted within a reasonable time.

LEGISLATION BY CONGRESS.

The construction of the canal is to be conducted pursuant to the legislation enacted by Congress. Should legislation additional to that already existing become necessary, the matter must be referred to Congress. In other words, the Commission does not possess legislative powers as to the national endeavor of constructing the canal. The powers of the Commission as to such construction are similar to those of a board of directors of a corporation engaged in some enormous undertaking for which provision has been made by the stockholders; such provision, in this instance, being that set forth in the act approved June 28, 1902, entitled "An act to provide for the construction of a canal connecting the waters of the Atlantic and Pacific oceans." (32 Stats. L., 481.)

The Commission exercises the powers of legislation appertaining to the government of the Canal Zone. This authority is derived from the President pursuant to the provisions of the act approved April 28, 1904, as follows:

That until the expiration of the Fifty-eighth Congress, unless provision for the temporary government of the Canal Zone be sooner made by Congress, all the military, civil, and judicial powers, as well as the power to make all rules and regulations necessary for the government of the Canal Zone and all the rights, powers and authority granted by the terms of said treaty to the United States shall be vested in such person or persons and shall be exercised in such manner as the President shall direct for the government of said Zone and maintaining and protecting the inhabitants thereof in the free enjoyment of their liberty, property and religion.

It will be noticed that the authority conferred by the foregoing provisions expires by limitation of time at the close of the Fifty-eighth Congress.

The Commission is of opinion that Congress should continue the authority conferred by the act above quoted "until otherwise provided by law." It is doubtful if the proper character and form of the permanent government of the Zone can be determined until after the canal is completed and the normal conditions thereafter prevailing ascertained. In view of the fact that the Secretary of War is now visiting the Canal Zone and examining existing conditions, and is conferring with the President and other officials of the Republic of Panama respecting certain questions as to the extent of the authority of the United States in and over the Zone, the Commission defers recommendations as to legislation by Congress until the matters in controversy are determined.

EXPENDITURES AND ESTIMATES.

The expenditures of the Commission to September 30, 1904, on the canal work, on engineering studies, on waterworks and sewerage systems for Panama and Colon, and for the government of the Canal Zone, including about \$15,000 expended prior to the appointment of this Commission out of the appropriation of \$10,000,000, may be briefly summarized as follows:

Salaries of Commission	\$49,316.14
Salaries of all other officers and employees, Washington office.....	24,247.63
Traveling expenses, Commission and employees.....	13,836.54
Salaries:	
Health department.....	\$36,776.52
Police department.....	14,477.54
Other zone employees.....	6,542.52
Salaries and labor rolls:	
Engineering department.....	174,962.46
Material and supplies department, disbursing office, and land administration.....	54,411.29
	287,170.33
Supplies shipped to Isthmus.....	112,575.70
Miscellaneous expenses:	
At Washington, rent of offices, furniture, fixtures stationery, office supplies, cable and telegraph services, books, blanks, printing, etc.....	15,761.31
On the Isthmus, supplies, etc., for all departments.....	31,582.51
	47,343.82
Total.....	534,490.16

This aggregate includes about \$44,500 due on pay-roll accounts on the Isthmus at the close of September, but not paid until after that date, as the rolls for the last half of the month are not usually paid until about the 10th of the following month.

These expenditures, not including the September pay-roll item above referred to, have been classified by the auditor of the Commission as follows:

Itemized statement of expenditures made by the Isthmian Canal Commission from the date of the appropriation, June 28, 1902, to September 30, 1904, inclusive.

Classification of expenditures.	Expended from June 28, 1902, to June 30, 1904.	Expended from July 1, 1904, to Sept. 30, 1904.	Total expenditures.
Advertising.....		\$46.60	\$46.60
Animals and vehicles.....	\$308.07	1,529.47	1,837.54
Books, professional.....	11.76	904.75	916.50
Courts.....		348.33	348.33
Explosives.....		8,213.70	8,213.70
Floating equipment.....		359.48	359.48
Freight and express.....	577.12	1,812.70	2,389.82
Fuel.....		124.70	124.70
Funerals.....		295.07	295.07
General office expenses, Washington branch.....	1,930.34	2,554.25	4,484.59
Hardware.....	8.60	526.61	535.21
Household furnishings.....	58.37	9,804.55	9,862.92
Instruments.....		2,048.33	2,048.33
Lighting.....		30.72	30.72
Lumber.....		26,285.03	26,285.03
Machinery.....		18,879.72	18,879.72
Materials and supplies not classified.....	772.89	9,708.14	10,481.03
Medical and sanitary supplies.....	456.96	18,540.81	18,997.76
Miscellaneous office and household expenses on the Isthmus.....	732.67	8,812.68	9,545.35
Mosquito bars.....	30.30	684.79	715.09
Office furniture.....	842.50	4,378.66	5,221.16
Photographic instruments and supplies.....		178.77	178.77
Plumbing supplies.....		2,164.18	2,164.18

Itemized statement of expenditures made by the Isthmian Canal Commission from the date of the appropriation, June 28, 1902, to September 30, 1904, inclusive—Continued.

Classification of expenditures.	Expended from June 28, 1902, to June 30, 1904.	Expended from July 1, 1904, to Sept. 30, 1904.	Total expenditures.
Postage paid.....		\$61.12	\$61.12
Postal supplies.....		710.20	710.20
Police equipment.....		727.04	727.04
Printing, binding, and stationery.....	\$457.78	7,276.14	7,733.92
Printing plant and supplies.....		442.65	442.65
Railway construction material (except lumber).....		1,194.91	1,194.91
Rent of property (except offices and quarters).....	385.00	108.07	493.07
Salaries and per diem of commissions.....	20,700.29	23,043.75	43,744.04
Salaries, Washington branch office:			
Secretary's office.....	\$,276.04	5,469.17	10,745.21
General counsel's office.....		1,875.00	1,875.00
Treasurer's office.....	517.68	1,628.75	2,046.43
Auditor's office.....		2,430.84	2,430.84
Miscellaneous.....		419.27	419.27
Salaries, police department.....	1,953.20	2,064.31	4,017.51
Salaries of engineer, assistants, etc.....	6,769.75	33,619.28	40,389.03
Salaries of medical and sanitary officers.....	940.61	12,612.73	13,553.34
Salaries, miscellaneous, on the Isthmus.....	2,941.37	13,676.32	16,617.69
State Department expenditures (confidential under sec. 291, Rev. Stats.).....	3,985.00		3,985.00
Subsistence.....	2,286.91	2,563.92	4,850.83
Telegraph, telephone, and cable.....	198.64	2,278.14	2,476.78
Transfer of money.....	67.75	233.00	300.75
Traveling expenses.....	7,639.17	8,257.80	15,896.97
Typewriting machines.....	1,102.50	3,300.00	4,402.50
Wages on the Isthmus.....	27,438.89	162,219.63	189,658.52
Wire screens.....		2,181.50	2,181.50
Total.....	87,815.07	402,093.98	489,909.05

It is thought that the expenditures from the appropriation of \$10,000,000 for a canal connecting the Atlantic with the Pacific Ocean to the end of the current fiscal year, June 30, 1905, including expenditures made prior to the appointment of this Commission, may reach an aggregate of \$5,000,000, depending upon the time that may be required to get the construction work well under way after the Commission has adopted the final plans of the canal. In the following fiscal year the increasing necessities of the work may require an expenditure of \$15,000,000 or even more.

Budget for the government of the Canal Zone for the current fiscal year ending June 30, 1905.

RECEIPTS.

Collected prior to September 30, 1904:

United States gold..... \$1,583.80
Silver, \$22,152.73, or about..... 10,550.00

Say..... 12,000.00
Estimated for rest of fiscal year..... 27,000.00

\$39,000.00

Amount to be paid from United States Government appropriations.....

1,187,000.00

\$1,226,000.00

EXPENDITURES.

Canal Zone government:

Governor's office and executive secretary's office..... \$30,000.00
Department of revenues..... 20,000.00
Treasurer's office..... 4,000.00
Department of justice..... 17,000.00
Education..... 5,000.00
Police department..... 60,000.00
Public buildings and roads..... 24,000.00

\$160,000.00

Canal Zone government—Continued.

Health department:

Improvements, buildings, and repairs	\$368,500.00
Equipment, supplies, etc	273,500.00
Salaries and wages (including labor)	326,500.00
Subsistence and sundries	97,500.00
	<u>\$1,068,000.00</u>

Total..... 1,226,000.00

Budget for the government of the Canal Zone for the fiscal year ending June 30, 1906.

RECEIPTS.

Estimated revenues	\$140,000
Amount to be paid from United States Government appropriations	956,460
	<u>\$1,096,460</u>

The foregoing includes the amount required from the funds at the disposal of the Commission for the health department, which has for convenience of administration been made a subdepartment of the Canal Zone government.

ESTIMATED EXPENDITURES.

Governor's office	\$1,900
Executive secretary's office	33,140
Department of revenues	24,970
Treasurer's office	4,650
Department of justice	20,400
Education	11,400
Police department	80,620
Public buildings and roads	78,000
	<u>275,060</u>
Department of health	821,380
	<u>1,096,460</u>

The foregoing estimates of Canal Zone receipts and expenditures are substantially those of the governor of the Canal Zone. In some cases slight modifications have been made by the Commission. Notably among these is a reduction in the expenditures proposed by the department of health on the island of Taboga. The Commission does not accept the establishment of a convalescent station or branch hospital at that point as requisite within a year, and therefore has reduced the estimate to that involved in proper care of the property.

It is not probable that the expenditures estimated by the physicians in charge of the hospitals and of the other services in the health department will be required, but it is submitted, without material alteration, as the Commission's estimate, being intended to cover possible requirements and emergencies. An increase of the staff of the health and other departments will only be granted as necessity requires, and is not to be considered as authorized by this submission of an annual budget.

Condensed estimates of expenditures on which the foregoing summary is based.

Designation.	Salaries.	Labor supplies expenses.	Total.
Governor's office	\$1,800	\$100	\$1,900
Executive secretary's office	24,640	8,500	33,140
Department of revenues		1,500	
Main office	13,800		24,970
Postal service	4,170	6,000	
Treasurer's office	4,300	450	4,650
Department of justice	20,400		20,400
Education	6,800	4,500	11,300
Police department	70,620	10,000	80,620
Public buildings and roads:			
Roads		13,000	
Buildings, repairs, and furniture		65,000	78,000
Health department:			
Office of chief sanitary officer	20,800	200	
Office of director of hospitals	13,600	200	
Ancon Hospital	192,500	39,700	
Colon Hospital	64,480	18,600	
Emergency hospitals and dispensaries	29,520	16,000	321,380
Convalescent station on Taboga Island	900	2,000	
Quarantine service	33,220	11,600	
Sanitary service, Canal Zone	71,460	92,000	
Panama health office	12,200	10,700	
Colon health office	9,400	7,000	
Subsistence at hospitals and detention barracks		175,200	
Total			1,096,480

The receipts and disbursements of the municipalities of the Canal Zone are estimated for the fiscal year commencing July 1, 1905, and ending June 30, 1906, as follows:

Receipts:

Land tax	\$4,000
Slaughter houses	11,000
Retail sale of liquors	32,000
Commercial taxes	27,500
Fines	6,850
Miscellaneous	2,200
	<u>\$83,550</u>

Disbursements:

Salaries	\$38,610
Charities	11,940
Public works	12,500
Rentals	1,900
Jails	10,500
Miscellaneous	8,100
	<u>\$83,550</u>

There are submitted herewith: "A Financial Statement of the Treasurer of the Commission," "The First Annual Report of the Governor of the Canal Zone," a printed copy of the "Laws of the Canal Zone," being all of the laws enacted by the Commission to the date of this report.

Respectfully submitted.

J. G. WALKER,
WM. BARCLAY PARSONS,
WM. H. BURR,
B. M. HARROD,
C. E. GRUNSKY,
Commission.

(The Hon. WM. H. TAFT,
Secretary of War.

APPENDIX No. 1.

TREASURER'S REPORT.

ISTHMIAN CANAL COMMISSION, OFFICE OF THE TREASURER,
December 1, 1904.

GENTLEMEN: I have the honor to submit the following financial statement to September 30, 1904, for the Commission's first annual report:

Appropriation, "Canal connecting the Atlantic and Pacific oceans."

Appropriated by act of June 28, 1902	\$10,000,000.00
Advanced to disbursing officers by requisitions on the Treasury Department:	
To the disbursing officer, State Department, prior to present organization.....	\$3,985.00
To special disbursing officer, prior to establishment of treasurer's office	45,000.00
To the treasurer.....	140,000.00
To the deputy treasurer	80,000.00
To the disbursing officer on the Isthmus.....	255,000.00
	<hr/>
	523,985.00
To the Treasury Department.....	500.00
	<hr/>
	524,485.00
	<hr/>
	9,475,515.00
Unexpended balance deposited by special disbursing officer ..	1,000.00
	<hr/>
September 30, 1904, balance in treasury.....	9,476,515.00

NOTE.—Allotments have been made to the Navy Department of \$2,500 and to the Treasury of \$1,000. The Navy has not drawn from the Treasury for expenditure the amount allotted, while the Treasury has only drawn \$500, as noted above.

Any portions of these allotments not expended by the respective departments will be returned to the appropriation.

MEMORANDUM.

Advances to disbursing officer on the Isthmus, as above stated	\$255,000.00
United States currency transferred and shipped by the Treasurer's Office to the Isthmus	45,000.00
Miscellaneous collections for rent of buildings, lands, supplies, sale of water, etc	7,621.84
	<hr/>
	307,621.84

Analysis of expenditures.

Washington branch office:	
Salaries of Commissioners.....	\$39,039.04
Salaries of all other officers and employees.....	24,247.63
Traveling expenses	6,878.63
Transportation of officers and employees to Isthmus...	6,957.91
Supplies shipped to the Isthmus.....	112,575.70
Miscellaneous (rent of offices, furniture, fixtures, stationery, office supplies, cable and telegraph service, books, blanks, printing, etc.).....	15,761.31
	<hr/>
	\$205,460.22
Isthmian headquarters:	
Salaries of Commissioners.....	10,277.10
Government of Canal Zone—	
Salaries, sanitary and health department.....	38,776.52
Salaries, police department.....	14,477.54
Salaries, all other Zone employees.....	6,542.52
Salaries and labor rolls, engineering department...	174,962.46

Isthmian headquarters—Continued.

Government of Canal Zone—Continued.

Salaries and labor rolls, material and supplies department, disbursing office and land administration	\$54,411.29
	<hr/> 297,447.43
Supplies and miscellaneous expenses all departments, Canal Zone.....	\$8,474.03
Supplies and miscellaneous expenses, engineering and material department.....	23,108.48
	<hr/> 31,582.51
	<hr/> \$329,029.94
Total expenditures for salaries, labor, material, and miscellaneous expenses.....	^a 534,490.16

^aNOTE.—It will be noted that the total of expenditures reported exceeds the total amount advanced to all the disbursing officers by \$10,500 in round figures. This is due to the fact that in order to show cost of operations on the Isthmus up to September 30, the pay and labor rolls for the last half of the month, aggregating about \$44,500, although not actually paid on that date, are included in the expenditures on the Isthmus. Deducting this amount from the total of expenditures reported will leave approximately \$490,000, as the actual payments made to September 30, the difference between this amount and the total advances to and collections by disbursing officers being represented by unexpended balances of about \$40,000 in their hands on September 30, or, in other words, the same result is shown by taking the total receipts of disbursing officers, in round numbers, approximately \$530,000 less unexpended balances in their hands \$40,000, actual payments \$490,000.

Supplementary.

September 30, 1904, balance of appropriations as above.....	\$9,476,515.00
Debits in October and November:	
Advances to disbursing officers.....	\$703,000.00
Accounts settled by the Treasury Department by transfer of appropriation for supplies furnished by other Government Departments	3,181.28
	<hr/> 706,181.28
November 30, 1904, balance in treasury.....	8,770,333.72

The local revenues and collections, as reported by the governor, are—from the sale of Panama postage stamps, stamped paper, internal revenue stamps; rents of lands, houses and materials; real estate, retail liquor and slaughterhouse taxes; excise taxes on distillation of rum, and taxes and fines collected by the police department aggregating \$22,152.73 local currency; and United States postage stamps ~~unexpended~~ "Canal Zone," \$1,583.80 United States gold; municipal revenues \$8,529.55, and expenditures \$6,307.05, local currency, these figures being only up to September 30, 1904.

Effort is here made, so far as this report is concerned, to show expenditures under general heads only, indicating the nature thereof. It may be added, however, that it is the intention to carry all expenditures from the beginning through the "Classification of accounts" recommended by the treasurer's office, adopted by the Commission, and officially promulgated August 20, 1904.

In fact this work of classification is now in progress, but the classification of expenditures on the Isthmus could not be obtained in time for this report; and, as above stated, all expenditures from the beginning will be so classified, included in the next annual report, and shown in final results.

The \$50,000,000, appropriated and paid to the French Company and Republic of Panama, will also be properly posted so that the books of the Commission and final report will ultimately show total cost of the canal project.

Respectfully submitted.

A. S. KENNY, Treasurer.

ISTHMIAN CANAL COMMISSION,
Evening Star Building, Washington, D. C.

APPENDIX No. 2.

FIRST ANNUAL REPORT OF THE GOVERNOR OF THE CANAL ZONE, ISTHMUS OF PANAMA, MAJ. GEN. GEORGE W. DAVIS, MEMBER OF THE ISTHMIAN CANAL COMMISSION.

ANCON, ISTHMIAN CANAL ZONE,

November 1, 1904.

SIR: On the 8th day of May, 1904, the Isthmian Canal Commission adopted a resolution in words as follows:

Resolved, That Maj. Gen. Geo. W. Davis be authorized and directed to represent this Commission on the Isthmus, taking general charge of the canal work and canal properties until the arrival upon the ground of a chief engineer. He is empowered and directed to use the present force of employees to the best advantage and to employ such additional labor and to purchase such materials and supplies as may be needed for the proper conduct of the work. He is also empowered to determine and fix at the prevailing rates, so far as practicable, the wages and salaries of laborers and other employees not fixed by the Commission. Salaries so fixed shall be reported to the Commission, and shall remain in force as the rates of compensation until modified by the Commission. He is authorized to approve vouchers for payment by the disbursing officer of the Commission. He is also authorized to represent this Commission in conferences with the Government of the Republic of Panama and the municipal authorities of Panama and Colon in matters relating to land, customs duties and other similar matters, reporting any action from time to time to this Commission.

In the discharge of these duties General Davis will avail himself of the counsel and cooperation of Commissioner F. J. Hecker while he is on the Isthmus.

On the same day the Isthmian Canal Commission was furnished with a copy of the letter of instructions of the President of the United States to the Secretary of War, vesting him with the power to direct and supervise all the work of the Isthmian Canal Commission, done by virtue of powers delegated to the President by act of Congress approved January 28, 1904, in the digging, construction, and completion of the canal, and in the government of the Canal Zone and its appurtenant territory. This letter of instructions was also a letter of appointment of Gen. Geo. W. Davis, a member of the Canal Commission, as governor of the Canal Zone.

As to his powers and duties, he was instructed "to proceed at once to the Isthmus of Panama. He will in my name, as the chief executive of the Canal Zone, for and on behalf of the United States, see that the laws are faithfully executed, and will maintain possession of said territory, including the public lands therein and the property real and movable on the Isthmus of Panama, except that of the Panama Railroad, that has recently been acquired from the Republic of Panama. He is hereby vested with the power to grant reprieves and pardons for offenses against the rules, regulations, and laws in force by virtue of action of the Commission or by virtue of the clause hereof continuing in force the laws of Panama. In case of his disability or absence from the Canal Zone at anytime, the Isthmian Canal Commission is empowered to designate the person or persons to act as governor during such absence or disability. Except as herein prescribed, the duties of the governor shall be fixed by legislation of the Canal Commission.

"For the preservation of order and protecting the property of the United States, within or without said Zone as provided by article 7 of the canal convention, an adequate police force shall be maintained. If at any time there shall arise necessity for military or naval assistance the governor shall, if possible, promptly notify you, and in the event of a sudden exigency the governor may call upon any available military or naval force of the United States to render assistance, and the same shall be immediately furnished.

"It is a matter of first importance that the most approved and effective methods and measures known to sanitary science be adopted in order that the health conditions on the Isthmus may be improved. It is the belief of those who have noted the successful results secured by our army in Cuba in the obliteration of yellow fever in that island that it is entirely feasible to banish the diseases that have heretofore caused most mortality on the Isthmus, or at least to improve as greatly the health conditions there as in Cuba and Porto Rico. I desire that every possible effort be made to protect our officers and workmen from the dangers of tropical and other diseases, which in the past have been so prevalent and destructive in Panama."

A copy of the letter of instructions was furnished to General Davis by the Secretary of War, and he sailed for the Isthmus on May 10, 1904. An employee to act as secretary, another as captain of police, and a naval paymaster to act as disbursing

officer, accompanied him. A major and a lieutenant of the United States Army Corps of Engineers, with two civilian assistants, were already on the Isthmus.

In the announcement made by the undersigned on May 19, 1904, appears the following in respect to Colonel Hecker:

"It is further announced that Col. Frank J. Hecker, member of the Isthmian Canal Commission, has been assigned by the Commission as general coadjutor to the undersigned on the Isthmus, his duties including the general supervision of the receiving, listing, assorting, and storing of the property and material here recently purchased by the United States; the preparation of schemes for repair of buildings, consolidation and renovation of work ships and storehouses, more effective care of material and supplies, and reorganization and reduction of the force of custodians of property; also the observation of the methods of management of the Panama Railroad, but without intervention in or direction of the control by present local officers. In short, he is to make a critical general inspection and to collect all procurable useful data for the Commission respecting the canal property and the business affairs on the Isthmus of Panama, now controlled by the United States."

On the 17th of May the governor arrived at Colon, and on the 19th of the same month he called on the President of the Republic of Panama to whom he presented a letter of introduction from the President of the United States. He was graciously received by President Amador.

On the same day the governor announced to the inhabitants of the land ceded by the Republic of Panama for canal purposes that the territory had been occupied by the United States of America, and that the temporary government over the same and of its inhabitants had been assumed by the undersigned, acting for and in the name of the President of the United States. The people were also informed that the laws of the land would be continued in force except where they were found to be in conflict with certain fundamental principles of government that are embodied in the Constitution of the United States, whereby specified individual rights are guaranteed to the people. Alcaldes and other officials already in the performance of official duties were directed to continue in the discharge of their functions.

Persons to perform the duties of secretary, treasurer, police captain, and sanitary officer were named to take charge of appropriate duties in the Zone government, and they at once assumed the duties to which they were assigned.

TRANSFER OF THE ZONE.

Very soon after the publication in Panama of the announcement that the United States authorities had assumed control in the Canal Zone, the Government of the Republic expressed objection to so summary or precipitate assumption of control as had resulted from the course pursued by the governor as stated above.

A statement of the situation was, at that time, submitted to yourself, and, through diplomatic channels, was reported at the Department of State. On the 26th of May the governor was instructed that he should participate in any ceremonies or formalities that might be proposed by the Panama Government as incidental to the assumption of direct control by the United States representatives, but he was cautioned that nothing should be done that could invalidate any action already taken.

The minister of foreign affairs was at once informed of the readiness of the governor to participate in such ceremonies as his Government might have in contemplation. In furtherance of a suggestion by the governor a communication outlining the proposed ceremonious function and a draft of a proposed agreement for the provisional delivery of the Zone to the United States authorities, prepared by the minister of foreign affairs, was sent to the governor.

Some of the provisions of the draft contemplated action on the part of the governor that he would not be competent to take. Attention was invited to these features, and there were several personal conferences between the minister of foreign affairs and the governor, in which the latter pointed out the very great advantage that would result to the Republic and to the United States by an arrangement of limits at once that would be recognized as controlling until such time as definite surveys could be made of the Zone boundaries and of the lines of separation between the Zone and the cities of Colon and Panama. The undersigned submitted maps wherein were marked the proposed provisional limits.

Mr. Arias, the minister of foreign affairs, promptly accepted the proposal in principle. It was arranged that the governor of the Zone should submit a counterdraft of the proposed agreement, and should also prepare the necessary maps that could be made a part of the formal document.

The amended draft and maps were submitted by the governor to Mr. Arias on the 30th or 31st of May.

Further discussion followed. Some changes were made in the boundary of the city of Panama, at the instance of Mr. Arias, and corresponding corrections were made in the maps. On the 16th of June all the papers were signed by the parties to the agreement; this in the foreign office of the Republic of Panama and in the presence of the President of the Republic.

Through a clerical error, the papers bear the date of June 15 as the day on which they were executed, but the signatures were actually affixed on the 16th day of June.

On the following day, to wit, the 17th of June, the minister of foreign affairs, in an official letter, notified the governor—

"that all the official and public employees in the Canal Zone have been instructed, through their respective superiors, that since yesterday their functions as members of the Government of the Republic of Panama have terminated because of the fact that the municipal districts on the line of the railway, over which they have jurisdiction, have been separated from the national territory by virtue of the agreement signed by yourself and the undersigned on the date mentioned."

Reference has been made to the fact that the Government of the Republic objected to the informality that attended the assumption of control over the Canal Zone by the representatives of the United States, and to the further fact that the governor of the Zone was quite ready to participate in any proper functions or ceremonies; but as the discussion of the delimitation agreement proceeded there was no reference to the matter of formalities, nor was the subject ever mentioned again.

The instructions to alcaldes contained in the governor's announcement of May 19 were supplemented by notifications to the alcaldes, the municipal judges, the inspectors of police, and the taxgatherers, in which they were told that they were to proceed in the performance of their functions as their duties were defined by the laws of the Republic that were in force therein when the canal treaty was ratified.

GEOGRAPHY.

The territory of the Republic of Panama is divided into provinces and these are subdivided into municipalities, usually spoken of as municipal districts. The canal route traverses two of these provinces—those of Colon and Panama—and the capital city of each has the same name as that of the province in which it is situated. Within a part of the province of Colon that is traversed by the canal, and partly within and partly without the Zone, are situated the municipalities of Colon, Gatun, and Buenavista, having populations numbering approximately: Colon, 6,000; Gatun, 900, and Buenavista, 2,200. Within the province of Panama, partly without and partly within the Zone, are the towns of Panama, having a population (by estimation) of 18,000; Empire, 2,500, and Gorgona, 2,200. The municipalities of Arraijan and Chorrera, also of the same province, extend into the Zone, but the inhabitants of such districts within United States jurisdiction do not number more than 100 or 200 souls.

When the limits of the Zone—10 miles wide—fixed in accordance with the canal treaty are projected upon a map, and the agreed-upon limits of the cities of Colon and Panama are defined or delineated, it is seen that, as respects the several political subdivisions of territory and inhabitants within the canal strip, the result is about as follows:

Name.	Population.	Square miles.
Colon	1,000	47,092
Gatun	800	74,112
Buenavista	2,000	98,662
Gorgona	2,200	84,071
Empire	1,900	65,466
Panama	1,000	78,976
Arraijan	200	.....
Chorrera	25	.....
Total	9,125	448,879

The areas here given are for the several municipalities as they were announced by the governor on July 1, 1904.

The cities of Colon and Panama are in close proximity to the canal line, and more than nine-tenths of the inhabitants of those cities are domiciled within the geographical limits of the 10-mile strip that is traversed by the canal location, but outside of the political limits of the United States Zone. The area recognized as pertaining to the cities proper, by the delimitation agreement already referred to,

has been computed from the map as having an extension—Panama of 673 acres and Colon of 502 acres. The former is bounded on three sides by lands of the Zone, and its fourth side is toward the bay of Panama; while Colon is bounded throughout four-fifths of its perimeter by water and land that is within the Canal Zone as recognized by the delimitation agreement.

As soon as an understanding had been reached as to the limits of the United States territory, efforts were made to ascertain what were the dividing lines between the several municipalities, but beyond some very vague descriptions in the laws creating the towns, there was little to be learned as to the respective areas, and often the limits were very tortuous. As every point on the Zone limits, though not yet surveyed and marked, was exactly 5 miles from the nearest point on the axis of the canal, it was always easy to ascertain exactly whether or not a certain locality was within or without the Zone, and since the purpose of the United States in assuming the government of the territory bordering the canal route was the sole object of facilitating the construction of the canal, and since definite and easily recognized lines of separation between municipalities would facilitate the administration of local government, considering also that the canal route had long before been staked off and marked by kilometer posts that were readily recognized or found, it was decided that straight lines should be used in marking all divisional lines between municipalities, and that said lines should pass over canal distance posts or marks in every case, and should bisect the canal axis at these marks in such manner that whether the center line of the proposed canal were a straight or a curved line, the transverse line would always be normal to the navigable channel, so that, if the canal axis were laid out on the arc of a circle, the bisecting line of municipal separation passing through the distance mark would be at right angles to a tangent of the said curve at the point of bisection.

HARBORS.

According to the terms of the canal convention, the harbors adjacent to the two cities of Colon and Panama, although within the 10-mile Canal Zone, were to remain under the jurisdiction of the Republic of Panama. In the delimitation agreement referred to above, that was signed on June 16, 1904, the limits of these harbors are described only in part; that of Colon consists of the outer portion of the Bay of Limon; and situated directly opposite (west of) the existing wharves, but its limits toward the sea will yet have to be defined and buoyed. The United States, by express agreement, has reserved exclusive jurisdiction over the dredged canal channel that will traverse this harbor of Colon so that at all times a vessel proceeding to and emerging from the canal and from the United States port of Cristobal will always be within United States jurisdiction until she passes beyond the 3-mile limit. All the inner portions of the Bay of Limon, as well as the dredged waters of Fok River, will be the harbor of Cristobal. Should the French plans for this harbor be adhered to, the port of Colon will cease to have any commercial importance after the new harbor shall have been made. The United States has jurisdiction over the site of both light-houses now marking the headlands of Limon Bay and the port of Colon. Vessels drawing 18 feet now discharge canal material in the port of Cristobal.

The headlands that bound the harbor of Panama are designated in the above-cited agreement, but the seaward front of this port yet remains to be determined and buoyed. In making a decision of this question and giving due weight to the physical conditions and contractual relations that obtain there should be no question as to the final result, although it is understood that the authorities of the Republic have put forward a claim adverse to recognition of the right of the United States to intervene in any way in the control and regulations of the foreign commerce that may frequent the canal ports of Ancon and Cristobal.

The following are some of the considerations that must have weight in the determination of this question:

(1) The dredged canal from abreast the islands of Naos, Perico, Culebra, and Flamenco, in the Bay of Panama, to the port at La Boca, a distance of over 2½ miles, were dredged by the French Company, and are now owned by the United States; it is United States property.

(2) La Boca wharf is the usual place of loading and discharging, on the Pacific side, of deep-sea vessels engaged in the commerce of foreign countries and those freighting material for the United States Government.

(3) The islands of Naos, Culebra, Flamenco, and Perico are, by express condition of the treaty, within the Canal Zone and under the jurisdiction of the United States. The anchorage of deep-sea vessels awaiting their turn to enter the canal and go to La Boca is directly under the lee of those islands and within a very few yards of their shores, which safe anchorage is 3 miles from the old wharf provided for the discharge

and loading of vessels frequenting the harbor of Panama proper, and quite a mile and a half from the nearest land under the jurisdiction of the Republic.

(4) The "adjacent harbor" to Panama at which, by the terms of the canal convention, is to remain without the Canal Zone, is the bay that lies between the Punta Paitilla on the east side and the Punta Chiriqui on the west. Within this bay is the wharf that was exclusively used for discharge and loading of all cargo coming and going by the Panama Railroad until the opening of the canal route and the completion of the La Boca wharf about three years ago. The deep-sea vessels frequenting this port had a commodious and safe anchorage in front of the harbor at a distance of about a mile and a half, and a map of the Isthmus, printed in 1855, contains an indication of the use of this anchorage by vessels of the Pacific Mail Steamship Company and of British vessels.

That the signers of the Hay-Bunau-Varilla canal treaty in arranging that convention had this harbor in mind as the one adjacent to Panama there seems to be no doubt, as will appear from the letter from Admiral Walker to the governor of the Canal Zone of May 31, 1904, and the letter of Mr. Bunau-Varilla to Mr. Hay, dated January 19, 1904.

The harbor of the Pacific terminus of the canal is under the exclusive jurisdiction of the United States, and that described under 3 ante, to wit, with anchorage under the lee of the American islands of Naos, Culebra, Perico, and Flamenco, the dredged channel leading therefrom, owned and maintained by the United States, and the enlarged canal passing in front of and alongside La Boca pier, is the harbor referred to, and has been named "Ancon" by the President of the United States.

MUNICIPALITIES.

The Zone, on July 1, 1904, was segregated into six municipalities, two of which were newly created, and the other four retained the names by which they had been known for many years.

Beginning at the Colon end, the first municipality is "Cristobal," the Christian name of the discoverer of America, whose family name was long since given to the northern terminus of the Panama Railroad—a place which for many years was known as "Aspinwall"—and this municipality included a small area projecting into Limon Bay reclaimed from the sea by the French Canal Company. This area was occupied with buildings erected by that company and now belongs to the United States. At the extremity of the mole, constructed as above stated, there was erected in 1882 by the French Company a handsome monument in bronze of the discoverer of America and an Indian by his side, the group being the gift of the Empress Eugenie to the Colombian Government made several years before.

The municipality of Christobal, bounded by the sea on the north, stretched along the canal line to kilometer 5, including Mount Hope and Mindi. The municipality of "Gatun" extended from Cristobal to kilometer 18, where it joined Buenavista. This last municipality extended to kilometer 34, where it joined Gorgona, and this stretched south along the canal to kilometer 48, the boundary of Empire (called by the natives "Emperador"), a town founded by the builders of the Panama Railroad. Empire extends south to kilometer 58+500, where it joins the new municipality of "Ancon," named for the hill 636 feet high which overlooks the city of Panama. On the slope of the hill is the principal government hospital, built by the French, and the headquarters of the Canal Commission are here situated.

Ancon extends to Panama Bay on the south, and the islands of Naos, Culebra, Perico, and Flamenco are within this municipality. The only buildings belonging to the canal works, now the property of the United States, situated outside the Canal Zone are the general canal office building, three stories high, and the residence of the chief engineer. These structures are of masonry, and are as valuable as any of their kind of equal size in the city.

In the city of Colon are some one and two story buildings of wood, erected for and still used as a hospital for employees. They are of temporary construction. On the island of Taboga, in Panama Bay, is a wooden building intended for use as a convalescent station.

The area of land owned by the United States situated within the jurisdiction of Panama, occupied by the two buildings above referred to, is 1,501 square meters, while the total area of land conveyed to the United States by the New French Company is about 13,500 hectares, or about 33,000 acres.

Upon these lands are about 2,000 wooden structures belonging to the United States, of various types, sizes, and styles of construction, ranging from 10 feet square to the storage sheds, some of which are 300 feet long, and a few with steel frames, while all have galvanized iron roofs. Very little in way of repairs has been applied to those

buildings since the work stopped in 1889, and it results as a matter of course that the temporary wooden buildings are in bad repair. During the past years a great many have collapsed and have been removed, while those that remain numbered about 2,000 when the work was taken over, in May, 1904; but, notwithstanding the poor condition of many of these structures, and the fact that every one needed repairs, the buildings received from the French Company have a very great utility, and their existence spares the Government a large expense.

Since the foregoing was written the municipality of Gatun has been discontinued, the territory embraced in it being divided between Cristobal on the north and Buena-vista on the south; this by legislative act of the Commission.

INDUSTRIAL AND SOCIAL CONDITIONS.

The municipal government found in existence consisted of an alcalde, appointed by the prefect; a municipal judge, chosen by the municipal council; inspectors of police, one for each exterior ward of municipal subdivision; a treasurer, and a secretary. The alcalde, the president of the council, the municipal judge, and each police inspector have a secretary. The salaries of the alcalde, the police inspectors, and their secretaries were paid by the general treasurer of the Republic, while the expenses of other municipal officials were required to be paid from municipal funds.

There were usually two public schools in each town; but they were very badly off for teachers, supplies, and shelter, while the attendance was very poor. Within the Canal Zone, and outside the village streets, there is no public highway of any kind passable for wheel vehicles. Along the railway that crosses the Isthmus pedestrians pass and repass, and ponies may also pick their way along the cuts and embankments just outside the track itself. There is no municipal building that could not be replaced at a cost of a thousand or fifteen hundred dollars, and there is no private dwelling in existence that could not be replaced at an expense of \$2,000. There is no masonry building in the Zone. Outside the immediate aggregation of houses there are no roads, and there is no means of getting from one town to its neighbor save on pony back along the railway tracks.

ZONE GOVERNMENT.

Since the Congress has by statute required that the President should, through his own nominees, establish and maintain a government over the Canal Zone, and as the United States became responsible for the maintenance of order and the protection of the people in their persons, property, and religion, and as the civil, judicial, and military officials administering the country in the Republic of Panama all ceased in the discharge of their duties on June 16, 1904, it became necessary that the governor, who had been designated by the President as the chief executive, should take the necessary measures to insure the attainment of the required results. In the case of four districts the municipal officials continue in the discharge of their functions; but there were two districts where no officials of the Panama Government remained save two or three inspectors of police.

In these districts, Ancon and Cristobal, trustworthy members of the police force were designated to administer the government, and to this end some of the powers of alcaldes were conferred upon them. In the four municipalities that maintained an autonomous existence the income from taxation was reported to be adequate to the needs of the municipal corporations, provided the General Government paid the salaries of the alcaldes, the inspectors of police, their secretaries, and some of the expenses of the schools, as was required by Panaman law.

For convenient reference and to show how skillful the lawmakers of the former government were in gleaming the revenue field, a list of taxes imposed by municipal councils is here given:

Foreign productions of all kinds brought into the municipality for consumption from abroad or from a neighboring town, cattle brought into the municipality from anywhere, fish caught in or outside the municipality, bakeries, commutation or a money payment of sentences of imprisonment, peddlers, personal labors, billiards, public amusements, charcoal burning, cane-grinding mills, lotteries, games of hazard, building permits ad valorem, traveling musicians, sealing of weights and measures, soda-water dealers, direct taxes, transfer of domestic cattle, auction sales, public assemblages at which admission is charged, estray animals, raffles, hotels and taverns, distillery of spirits, retail liquor trade, property tax, cockpits, public halls, slaughter-houses, rental of municipal property, rental of vacant property, escheated estates, permits to clear forests, income tax.

The revenues of the State are derived from the following general sources: Commercial contribution, which in reality is an import tax varying from 15 per cent ad valorem to as much as \$8 a gallon on some kinds of liquors, distillation of alcoholic liquors, retail sale of liquors, slaughter of cattle, cattle, poll tax, land tax, lotteries, pearl fisheries, mines, patents and trade-marks, stamped paper, postal taxes, registering of documents, ballast taken, light-houses, consular fees, certain exports, immigration tax, gambling privileges, opium monopoly, register of property, telegraphs.

On the 16th of June, the treasurers of the municipalities closed their books, balanced their accounts, and reported the result to the proper officers of the Republic of Panama. The following day these officials opened new accounts under their official responsibility as officers of the government that had been established in the Canal Zone by the United States.

On the day of the cessation of control by Panama officials there were in office a few taxgatherers. Their collections consisted of State revenues, derived principally from excise on manufactured rum, a tax on the slaughter of cattle, and on the retail sale of liquor. Their compensation consisted of a percentage of their collections. These men were continued, but a supervision over them was assigned to Paymaster E. C. Tobey, U. S. Navy, who was also the treasurer of the Zone. He entered upon his duties on July 1, 1904, with the appointment that day made, but had previously received such sums as the tax collector had paid in. The total collection of internal revenue on October 1 amounted to \$6,658.85 local currency.

In an industrial way, except the railway, there is nothing save the cultivation of cane and its manufacture into rum. A few Chinese make gardens, but no one else does. The natives living along the Chagres and its tributaries grow some bananas, which are marketed in Colon, the authorities of the Republic at Colon imposing on this fruit an export tax of 2 cents a bunch. A few oranges, plantains, and mangoes are grown, while near Colon and Empire are two ranches where neat cattle are raised and small dairies maintained. The total number of cattle in the zone may possibly reach 1,000. The Chinese in Panama and Colon are the principal fishermen, and at these two places very good fish are usually purchasable at prices considerably higher than prevail in the United States. A few thousand cocoanuts are grown in the neighborhood of Colon and thence shipped to the United States. A little charcoal is burned for local use. Within the limits of the Zone there are no merchantable timbers or dyewoods obtainable. There are no mineral deposits known, and none have ever been worked. The only exports of the canal strip are bananas and a few cocoanuts.

POSTAL AFFAIRS.

There never were any post-offices in the Canal Zone proper. Each day a mail messenger started from Panama on a morning train, and another at the same hour started by train from Colon. Each of these men carried, personally, such letters for points along the road as had been dropped into the Colon or Panama post-offices. At each of the stations where the train stopped the messenger left with the policeman, if one was visible, or with the station agent, if there was one, or left lying on the platform for anyone to pick up who wished, such letters as were addressed to the respective stations. Likewise he received any letters that might be handed to him, and at the end of his route he posted what he had received. He supplied postage stamps to applicants upon payment thereof.

The French canal management also sent daily a mail carrier from Panama to Colon and return, who delivered and received the company's mail.

Of course, such a system of mail service would not meet the necessities of the United States. On June 20, 1904, the Postmaster-General of the United States announced that the domestic rate of postage would apply to the Canal Zone, which had been brought into the American system.

On the 20th of June, 1904, request was cabled to the chairman of the Commission asking that certain towns or stations be announced as post-offices, and that a supply of United States postage stamps be forwarded, the same to be overprinted with the words "Canal Zone." In due time, by an order of the President, nine stations along the line of the railway, on the Isthmus of Panama, were established as post-offices, and the governor was empowered to appoint postmasters and to make needful regulations.

On the 22d of June a copy of this order was sent to the minister of foreign affairs of the Republic of Panama for his information. He was requested to supply the government of the Zone, for temporary use, with the current postage stamps of the Republic, the same to be surcharged, before delivery, with the words "Canal Zone."

Mr. Arias kindly responded, and on the 24th of June the United States postal service throughout the Zone was established by the government thereof. It was placed

under the supervision of Paymaster E. C. Tobey, U. S. Navy, treasurer. The number of post-offices was nine, and the postmasters were appointed by the governor. Two postal messengers for carrying and delivering the mail to the intermediate post-offices were also appointed.

On the 13th of July the supply of United States postage stamps was received, and on the 17th of July the use of the Panama stamps was discontinued.

From the 24th of June, 1904, to the date when their use was discontinued the sales of Panama stamps were as follows: 2,600 two-cent stamps; 7,800 five-cent stamps, and 4,940 ten-cent stamps.

The instructions issued by the governor of the Zone in establishing the postal system will be found attached hereto.

The number of post-offices at the present time is ten, and the service is under the charge of the collector of revenues. The registration system will soon be introduced, but as yet the necessity of establishing money-order offices has not been manifest.

Upon the discontinuance of the use of Panama over-printed stamps there was left on hand 700 5-cent stamps and 304 10-cent stamps. These were destroyed by burning in the presence of a board appointed by the governor, to whom the board reported the result as above.

In view of the fact that charges have been made to the effect that counterfeit Panama Zone postage stamps have been sold to stamp collectors, the statement seems appropriate that no officer of the Zone government ever had anything whatever to do with the surcharging of the Panama stamps, or ever had in his possession any unsurcharged stamps that were owned by the Zone government, or ever had in his possession any of the rubber stamps or type used in surcharging.

The postal service has been a great convenience, and appears to have been patronized somewhat by the merchants and other residents of Panama and Colon, who could forward their mail to the United States at the rate of 2 cents United States currency per ounce, instead of 10 cents local currency per half ounce. Mail was also dispatched per American steamers to the United States ports of New York, New Orleans, and San Francisco.

PUBLIC ORDER.

At the time of the transfer of the Zone to the United States the French Canal Company had a force of some 600 or 700 men employed, principally in continuing in a feeble way the work of excavation on the Culebra or summit divide, but a considerable number of men were employed as caretakers of machines, tools, apparatus, stores, and supplies of all kinds, of which there was a vast accumulation on the Isthmus. The protection of this property against theft was supposed to be secured through an arrangement entered into by the French Company with the authorities of the Colombian Republic, an arrangement that was continued after the secession of the Department of Panama and its recognition as an independent state. For this protection of the property a monthly payment was made to the Republic, approximately \$4,500 local currency, for the services of some 75 individuals of the police of the Republic. There was one officer, several sergeants and corporals, and other classes. Their aggregate salaries amounted to the sum allowed monthly for this protection. The men were really watchmen and guards, but they were maintained by the Republic on exactly the same basis as the police of the capital city and of Colon.

In pursuance of the instructions of the President a police force was organized for the Zone as soon as possible, but the arrangement found in existence of employing guards and watchmen had to be continued temporarily, and the authorities of the Republic were quite willing that these men should continue in their posts and duties under the authorization of the governor of the Zone. Therefore, from and after the 4th of May, 1904, the cost of the special guards, etc., detailed from the police of Panama was paid by the United States in a lump sum, and this continued until the end of May, 1904. After that date the men composing the force were paid directly, as individuals, from local revenues and from United States appropriations.

By the 2d of June the affairs of the government of the Zone were so well in hand that orders could be made operative looking to the creation of a Zone police, and the necessary instructions were issued to give effect to the Executive order of the President of May 9, 1904. A force of 82 officers and men was authorized, at rates of pay ranging from \$1,800 per annum for the chief officer, to \$1,000 for sergeants, \$500 for corporals, and \$450 for privates; all to furnish their own subsistence and clothing. The officers and sergeants were to be Americans, while the others were to be natives.

The authorized number of police of all grades and ratings, November 1, is 103, and its cost for salaries per month about \$5,000.

The police rules and regulations contemplate the maintenance of an organization similar to the Philippines Constabulary, the insular police of Porto Rico, and the

rural police of Mexico. The organization reports directly to the governor, through the chief of police, and acts under the orders issued by the chief executive, whose authority and discretion are regulated by law. The mayors of municipalities may call on the police to support their authority exercised in a lawful manner.

JUSTICE AND JUDICIARY.

At the taking over of the Zone, justice was administered in the Republic by a supreme court of five justices, by a superior tribunal composed of several judges, one chamber hearing civil and one criminal causes, by several circuit courts, by the municipal judges, by the alcaldes, and by the inspectors of police.

In four of the municipalities whose officials ceased to act on the 16th of June, as before related, there were municipal judges. In the four fractions of municipalities there were none. Out of one of these fractions a new municipality was formed, and the four other fractions constituted another new municipal district, but as the aggregation of these fractions was a provisional act of the governor, done by virtue of his police power to preserve the peace and maintain order, he could not proceed beyond the purely temporary expedient of detailing members of the police to preserve order among the inhabitants.

Generally speaking, one-half of the Zone pertained to the judicial circuit of Colon and the other half to Panama province. In each of these there was one or more circuit judges, but they were forbidden to continue in the discharge of their functions by the order of the Government of the Republic, and it would have been manifestly improper for them to hold court in the Zone, for they derived all the power and authority they possessed from the Government of the Republic and were therefore alien to the Zone.

From this condition of affairs it resulted that in the two provisional municipalities there were no local judges, while in the next court above there was no judge nor any authority residing in the governor to create a court or to appoint a judge. From the 16th of June until the 2d of September, when the new legislation by the Canal Commission went into effect, there was no court that could hear and determine a case ordinarily falling within the jurisdiction of a circuit judge.

The Commission visited the Isthmus in August, and enacted several very important laws, one of which created a Zone judiciary. A judge and a prosecuting attorney having been appointed and qualified. The circuit court of the Zone began its sessions and has, since the 1st of September, been able to administer justice.

The alcaldes and the police officers will hereafter cease to have and to exercise the punitive power with which they were formerly invested. In each municipality is a municipal judge, and in the Zone there is one circuit judge, although the act of the Commission contemplates the division of the Zone into three districts or circuits, each with a judge.

Formerly the municipal judges were furnished with a secretary and a prosecuting officer, but these officials to aid the judge are no longer sanctioned. The prosecuting officer of the Zone is also the legal adviser of the governor, is authorized to prosecute before all courts, and is required to defend the interests of the United States and the Zone government in all litigation.

In the opinion of the undersigned, there is no necessity for more than one circuit judge and one prosecuting officer. The chief of the Zone police now acts as marshal of the court. So far, there has developed no necessity for the appointment of a marshal.

There is at present no provision for hearing appeals from the decision of the present circuit judge. It does not seem to the undersigned to be necessary or expedient to have appeals from such decisions heard in the Zone. The method that was proposed by Senator Kittredge in his bill which passed the Senate, if enacted into law, would provide for an appeal and would serve all requisites in that regard.

It has been urged in dissent to this proposition that an appeal to a court at New Orleans or New York, for example, would be the same as forbidding appeal, for the parties might not have the means to incur the expense of taking their case so far. There are several Anglo-Saxon colonies of Great Britain where there is but a single judge, and where appeals are taken to England. St. Helena, with a population of about what the Zone has, is one; and Belize, Honduras, with a population of some 40,000, is another; populations like that of the Zone made up largely of negroes.

The objection to a large judiciary in the Zone is that all judges in excess of one will have nothing to do. These people do not seem to be litigious. So far they have shown themselves to be very tractable. There will probably be more litigation and more criminal charges to be tried after the canal work assumes greater proportions than at present, but it is scarcely possible that the number of persons who may

at any time come under the jurisdiction of United States courts will exceed 50,000, and probably not more than 2,500 of them will be Americans of the white race. At present quite half of the inhabitants are foreigners, a proportion that in the future is likely to be largely increased. Surely six municipal judges and one superior judge can attend to the litigation and crimes of the probable maximum number stated.

Another employment has been suggested for the three judges, that of constituting them a land court, such as was created by Act 496 of the acts of the Philippine Commission.

The experience and observation of the writer in the Philippines showed him that the land court of registration served a very useful purpose in all cases where the United States required certain lands for public purposes and where there was much doubt and uncertainty whether the land was public or private, and, if the latter, whether the title was vested in A, B, or C. It was convenient to require parties owning land, or claiming to own it, to come into court and produce their titles; but on the Isthmus a method for accomplishing this result has been already accomplished by Sections VI and XV of the canal convention, which is now public law of the United States and of Panama. Besides, the President has appointed the two members of the Joint Commission who are to represent the United States in respect to the determination of the amount to pay for damages resulting from the taking of private land, and this is said with full knowledge of the opinion of Judge Charles E. Magoon respecting expropriation proceedings in his report to the Secretary of War, dated May 26, 1904.

So far, there has been no occasion to exercise the authority delegated to the Commission by the President in his instructions to the Secretary of War of May 9, 1904, conferring upon them the power to expel from the Canal Zone certain criminal, vicious, or undesirable characters.

JAILS.

The need for a prison where criminals under sentence may be confined is evident, and steps have been taken to erect one within the Canal Zone. The municipal lock-ups are rude and insecure affairs, and the system of subsisting prisoners wholly bad. When an individual is confined, the family or friends of the person must feed them or they will go hungry. If there is no one whatever who volunteers to supply food, the alcalde allows a small pittance with which the prisoner may purchase food, but the amount is only sufficient to pay for an inadequate supply of the plainest and cheapest subsistence. On several occasions the police have found it necessary to release persons locked up by the alcaldes who had received no food for two or three days.

HEALTH AND SANITATION.

The instructions of the President required that every precaution be taken to protect the employees of the Government against the tropical diseases that have previously caused a high mortality at Panama. An experienced officer of the naval medical service, already on the Isthmus, was directed to report to the undersigned, and to concert measures with the canal employees and the local members of his profession for preventing infection and warding off sickness. He was announced as acting chief sanitary officer on May 19, 1904.

In the French company's staff were two doctors employed, one at the hospital near Panama and the other with the principal force of workmen who were employed in excavations at Culebra.

Fortunately there was no prevalent sickness on the Isthmus at the date of the assumption of government by the United States. There had been a very few cases of yellow fever and smallpox during the preceding twelve months, and some deaths. There was no cholera nor plague. Consumption appears to cause more mortality on the Isthmus than any other ailment, as this grave malady usually does in the Tropics everywhere.

Throughout the world, among reading people, the name "Panama" is associated with chagres and yellow fever, with disease and death; a country that, according to the usual concept, was made up of swamps and jungle, reeking with miasma and swarming with poisonous reptiles and insects. That death should close the career of any visitor to the Isthmus was not thought remarkable, but the average man understood that to survive a visit there was remarkable. Were not the graves of workmen equal in number to the ties laid by the road builders under the rails of the Panama transit route?

Nobody had ever disputed that statement, current everywhere; apparently nobody even thought of asking himself the question: "Is it possible that the deaths averaged 85 a day for five years and reached a total of 150,000 in that time?" A number more than ten times greater than the whole population of the Isthmus at that period; a number probably equal to all those who crossed the Isthmus from 1850 to 1856.

Twenty-six years after the driving of the last spike came the French undertaking, led by the maker of Suez, and for eight years money, champagne, absinthe, and rum flowed like water. Then the dissolute and depraved—the human driftwood of the nations—thronged to the Isthmus and joined in the constant carnival of dissipation, disorder, and crime, an era of license and luxury, of starvation and misery, of corruption and venality.

Whatever qualities of honor, of self-respect, and correct living may have existed on the Isthmus before the advent of the railroad and canal, those possessing such virtues were lost or sacrificed in the tornado of dissipation that came with these enterprises, so that the local government, whatever may have been the excellence of intentions of the governing class, was utterly powerless to stem the tide. Licenses for the privileges of open indulgence in vicious and criminal practices and monopolies sold to the Government favorites yielded large sums to the public chest. There was no such thing as a self-respecting public opinion; there was apparently no standard of morality or virtue.

The present Government of the new Republic has an opportunity to show that similar practices to those of the past, that have helped to make Panama infamous, will not be permitted longer to prevail. There are provisions in the new constitution that look to the discontinuance of official monopolies and that do now prohibit games of fortune and chance, but the world will have a reason for withholding confidence in the sincerity of those who enact and those charged with the enforcement of those laws so long as the general treasury continues to enjoy a large income from officially authorized gambling and lottery drawings.

It is not surprising that during the temps de lux, as the period of lavish expenditure of the French is still called—a time when every man and woman sought to participate in the orgie and profit by it—that little thought was given to sanitation and hygiene, to pharmacies and hospitals, to asylums and infirmaries. Those who dropped out in the scramble simply languished and died. That the mortality was great is certain, and it would have been so in any climate where like sanitary and social conditions prevailed; but the death rate was undoubtedly large. It is for Americans to see if they can not change those conditions. That we will do so is the confident belief of the sanitary officers and the undersigned.

The matter above printed in italics constitutes the pages omitted from the original report of General Davis, as printed and referred to in his testimony.

The French company was operating under a concession. The company had no police power. If wronged or injured personally or corporately, the appeal for justice had to be to a Colombian court.

The company could not compel the inhabitants along the canal line to clean up and observe sanitary rules; indeed, there were no rules. If a village was reeking in filth it so remained until the people might abate the nuisance; but the French company made large expenditures in hospital construction and maintenance. An establishment that is to-day a notable one was built near the city of Panama, in a very thorough manner, and it possessed all the appointments usually found in hospitals of its date.

In Colon was another very creditable institution of smaller size, and on the island of Taboga, in Panama Bay, was built a convalescent hospital with some 25 rooms. The beds in these three establishments numbered about 600, and in times of emergency they have sheltered many more than this number. These buildings can all be repaired at small expense (indeed, some of them have been), and will serve to meet a large part of the needs of the Government for hospital accommodations, and the Commission is so spared the need of a large expenditure on this score. But the existence of the Canal Company hospitals in no way relieved the situation for the vast horde of canal followers and riffraff.

The canal officials were highly paid; they were so far from home and its restraints; they were ignorant of the measures that we now know are effective in warding off certain diseases prevalent on the Isthmus, and a great many died; how many, or what percentage of the population, the world will never know.

The two diseases next to tuberculosis in virulence as causes of mortality, yellow fever and malarial fever (Chagres fever, so called, but only a type of the malarial kind), are now known to be transmitted by the sting of an insect, and probably in no other manner. To this proposition all the leading physicians in the world now subscribe. A certain way to prevent an infection of either of these fevers is to shield or protect those here from the sting of the mosquitoes, and that it is not difficult to accomplish. This has been proved in a great many places, notably in Cuba, in Egypt, and in West Africa.

The sanitary officers of the Zone are proceeding on the lines of carefully observed experience.

The health and sanitary department is thus organized: A chief sanitary officer, a director of hospitals, a chief quarantine officer forming a board of health; a superintendent and requisite assistants for each of the two principal hospitals; a quarantine officer for each terminal port; a health officer and assistants for Panama and another for Colon; a field hospital at each center of work; a sanitary expert for the Zone, with a sanitary inspector at each station; a physician at each important center of work.

A building, erected at large expense as one of the residences for the director-general of the French company, has been repaired and made ready for use as a detention house for passengers arriving on an infected vessel at ports of Panama or Ancon, and a building for a like purpose will soon be erected at Colon or Cristobal.

Since May, when the control of the canal works and the hospitals passed to the United States, the health of the Isthmus has been very good. There have been four cases of yellow fever, all among those who were inhabitants of Panama when the United States took over the canal. Not one of them was a canal employee. Two of the cases referred to terminated fatally, one is recovered, and one is now convalescing. The cases were many days or weeks apart.

There have been a few cases of malarial fever, but the number has not been noticeable, nor have any of the cases been severe.

The marine battalion that have been on duty at Empire for ten months, numbering 411 men, has had no fatal case of sickness. The men are in good health, but about one in three have had mild attacks of malaria.

Within the Zone there are at present employed in the sanitary department about 160 persons engaged in efforts to change the sanitary condition. Along the line of the proposed canal there are several parties of laborers engaged in the work of disinfection, drainage, destroying breeding places for insects capable of causing infection, covering water barrels to prevent them from becoming breeding places for mosquitoes, and, in other words, everything that experience has shown is effective in safeguarding the health of the inhabitants.

Within the city of Panama a considerable force of laborers has been at work for the past two or three months, under the supervision of American and native officers, performing the same service for those cities, except that the actual cleaning of the streets, works of drainage, etc., are being performed by the local authorities.

It is the opinion of the chief of the sanitary department that this system may soon have to be changed, and that the work in question, if it be efficiently performed, must be assumed by the United States and paid for out of the public Treasury. But, under the terms of the canal convention, the United States could not intervene in this matter unless the authorities of the Republic declare their inability to do or fail to do what is required of them by the United States sanitary ordinances. It has not yet been deemed necessary or expedient to apply this provision.

A few cases of yellow fever have been found in Panama, and wherever one has been located the house and neighboring premises have been disinfected, and all insects capable of transmitting the infection have been destroyed. In one instance this work of disinfection in a private house by sulphur fumes resulted in some damage to

private property within the house and, in consequence, a claim was presented for payment for the loss sustained by the owner of the articles. The legal adviser of the Canal Commission, then on the Isthmus, expressed the opinion that payment by the Government could not properly be made for this purpose, and the matter has gone no further; but the subject will probably be brought up and presented in another shape by the person who has suffered the loss.

The plans for the waterworks prepared by the chief engineer are being executed. A system of sewerage has been also planned by the chief engineer and work has just been commenced, and this will be an important aid to good health conditions. The scheme of water supply contemplates obtaining a supply from the head of the Rio Grande River, on the canal line, for the city of Panama, for a good supply of potable water can be collected at the sources of that stream and brought through a 16-inch pipe laid along the line of the Panama Railroad. The elevation of the source of supply is 212 feet. A reservoir, at an elevation of 144 feet, is being constructed within the Zone on the outskirts of the city of Panama, and from this reservoir the water will be distributed to the city and to a part of the Government buildings in Panama, while the other buildings, at a higher level than this, such as the upper portion of the hospital, will be supplied from the same reservoir by means of a pumping plant. It was estimated that the work of water supply for the city of Panama would be completed by February, 1905. The material for use in constructing it has been purchased in the United States and will probably soon arrive on the Isthmus.

In Colon, where the conditions are not so urgent because the population is less, the plans are not so far advanced. The city of Colon, lying as it does just above the high tide of the sea, and a part of it scarcely above high tide, presents some complications and difficulties that will probably require pumping of sewage. No convenient water supply for Colon has as yet been decided upon, but it is satisfactory to know that no serious illness has so far occurred, even though the sanitary conditions in Panama and Colon are very bad. No employee from the United States has died.

The policy being pursued by the sanitary department, by authority of the Canal Commission, is to exercise a strict oversight of the health of all inhabitants of the Zone, including Panama and Colon cities. If anyone should be sick or suspected to be sick with yellow fever, such person would be taken to a canal hospital and screened by wire cloth so that mosquitoes can not reach the patient. All cases of employees sick of malaria are taken into the Colon or the Ancon hospital and so screened that mosquitoes can not reach them.

Those who are helpless and without any means of support, as well as those needing surgical treatment which they are unable to secure, are cared for in Government hospitals as safety measures to prevent spread of disease and as acts of humanity, for the municipalities are unable to care for their own paupers or sick.

On October 26 the number of patients in the Ancon hospital was 188, of whom 98 were nonemployees, and of the latter 6 were "pay" patients.

On the same date the number of patients in the Colon hospital was 35, of whom 26 were nonemployees, 3 of whom were "pay" patients, making a total on that date of 225 patients, of whom 127 were nonemployees and 98 were employees.

The three field hospitals have only four beds each and are simply stations for emergency cases, the same to be sent to the larger establishments as soon as practicable.

The present total number of United States employees on the Isthmus is 3,500; the number in hospitals of this force is 98, or about 28 per thousand.

As rapidly as practicable, or as necessities require, the employees from the States are being housed in the old repaired and renovated buildings or in the new temporary structures, modern plumbing is being installed, and the conditions for decent living are being created. A supply of provisions from the United States is always available for purchase by the employees at reasonable prices. The water used in all hospitals is either distilled or boiled before using. A modern laundry for the Ancon hospital has been asked for, and an ice and cold-storage plant will soon be provided for each hospital. Electric lights for Ancon have been installed.

When the Zone was taken over there were no provisions whatever for caring for the insane. Upon these unfortunate people was formerly bestowed such care as their friends could afford, but in the case of those who were afflicted with a mania that required restraint there was no possible means of caring for them in the manner usual in civilized countries. There were no cells in any municipal lockup, and a common method of preventing maniacs from injuring themselves or others was to place them in stocks.

When control of the inhabitants living between Colon and Panama came under the United States jurisdiction there were several such people at large and in the stocks. Some rooms in the Ancon hospital were assigned as places of safe-keeping for the insane of the Zone, and now the number within control of the United States doctors is 10. An old building used as a distillery by the former French company,

situated near the hospital grounds, is being fitted up for occupation by the insane. It will accommodate 23, a number which it is believed will not be exceeded for some time of those who are so afflicted mentally as to require restraint.

The municipal governments of the Zone are so feeble and the inhabitants generally so poor that the cost of the maintenance of the insane in almost every instance must be borne by the United States.

It is supposed, indeed known, that there are a few lepers in the Zone, but as yet no active measures have been taken looking to their isolation. It is self-evident that if a leper asylum be established the whole cost will fall upon the United States. In the neighboring city of Panama there are a few lepers housed in wretched huts near the sea beach, a half mile from the center of the town, where they are left very much to themselves, but charitable persons in Panama see that they are supplied with food. The city of Panama has lately appropriated the sum of \$50,000, silver, to be applied in procuring a new lazaretto for these incurables, but nothing in execution of the intention has yet been done. Should Panama carry its project into execution it would probably be practicable to have the leprous inhabitants of the Zone housed and cared for in the establishment belonging to the Republic.

The general health of the inhabitants of the Zone and of the cities of Colon and Panama since April, when the undersigned first visited the Isthmus as a Canal Commissioner, has been good. The climate does not appear to be a deadly one, and with proper precautions and with an observance of the rules which experience has shown all over the world are necessary and easy of observance, the employees of the Canal should enjoy good health. The ruling temperatures in the city of Panama are from about 70° as a minimum to about 95° as a maximum. The ordinary range of the thermometer is about from 73 to 85°, and almost always a light bed cover is desired during the latter part of the night.

The following statistics respecting the health and sanitary service, furnished by Colonel W. C. Gorgas, chief sanitary officer, contain useful information respecting the work in his charge:

Ancon hospital:

Capacity May 4, 1904, as rated by the Canal Company (but at times has accommodated as many as 700)	476
Capacity September 30, 1904	360
Patients admitted May 4 to September 30	477
Deaths from May 4 to September 30	21
Patients discharged	302
In the hospital September 30	154
Number of trained nurses	22

As to the separation of employed from nonemployed it is impossible to give the figures, except from August 17, at which date an order was issued from the chief sanitary office directing that a daily report be made of admissions of patients not employed by the Commission. As most of the patients admitted prior to August 17 have left the hospital, the facts of their employment can not be obtained.

	Employees.	Non-employees.
Patients admitted August 17 to September 30	163	122
Deaths from August 17 to September 30	8	7
Patients discharged	111	64

Colon hospital:

Capacity May 4, 1904, as maintained by Sisters (no rating by Canal Company) ..	60
Capacity September 30, 1904	(a)
Patients admitted May 4 to September 30—	
Employees	(a)
Other than employees	(a)
Number of trained nurses	(a)
In hospital September 30, 1904—	
Employees	1
Other than employees	34
Total	35

(a) Not obtainable.

Colon hospital—Continued.**Patients taken over on assuming control, September 14—**

Employees.....	1
Pay patients	3
Other than employees or pay patients.....	29

Patients admitted since September 14, 1904—

Employees.....	3
Pay patients	3
Other than employees or pay patients.....	22

Total	61
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Deaths from September 14 to 30, 1904—

Employees.....	0
Pay patients	0
Other than employees or pay patients.....	0

Total	0
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Patients discharged since September 14 up to September 30—

Employees.....	2
Pay patients	5
Other than employees or pay patients.....	18

Transferred, pay patients	1
In hospital September 30, 1904.....	35

Total	61
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Quarantine office:**Panama, Republic of Panama, and Ancon, Canal Zone—**

Vessels boarded	61
Vessels detained.....	6
Suspects refused admission	0
Disinfected.....	7

Colon, Republic of Panama, and Cristobal, Canal Zone—

Vessels boarded	107
Vessels detained.....	0
Suspects refused admission	0
Disinfected	0

No passengers were ultimately refused admission, but 175 were held under observation or surveillance, aboard or ashore, to complete five days from date of last probable exposure to yellow fever.

Four patients arriving at Panama were held as suspected of plague until bacteriological tests and other evidences showed the patients free from this disease.

Health office of Colon and Cristobal:

Houses inspected in Colon and Cristobal	1,067
Houses fumigated	4
Contagious or infectious diseases removed from houses.....	0
Premises cleaned	420
Premises recleaned	104
Barrels and cisterns condemned	0
Barrels covered	0
Loads of dirt removed from yards and streets of Colon.....	1,465

Health office of Panama:

Houses inspected to date.....	1,642
Houses reinspected to date.....	700
Houses fumigated	39
Cases of infectious or contagious diseases removed from houses	3
Premises cleaned.....	1,582
Barrels and cisterns condemned.....	10
Barrels covered	350

Chief sanitary inspector, Canal Zone:

Houses inspected.....	0
Cases of infectious or contagious diseases removed from houses by sanitary inspectors.....	0
Premises cleaned	0

Chief sanitary inspector, Canal Zone—Continued.

Rain-water barrels made mosquito-proof—

At La Boca..... 200
At Culebra..... 505

705

(Pails installed for night soil—

At Bas Matachin..... 7
At Gorgona..... 18
At Culebra..... 36

61

Garbage cans emptied daily at Culebra..... 80

Drainage work has been done at the following places previous to October 15: La Boca, Ancon, Paraiso, Culebra, Empire, Las Cascadas, Bas Obispo, Bas Matachin, Gorgona, Tabernilla, and Bohio.

Emergency hospital, Gorgona:

The first patient was admitted September 28, 1904.

The number of cases treated from that date to October 12, inclusive, was 112.

Sent to Ancon Hospital, 2.

Scores of persons have been furnished with remedies for trifling temporary ailments not sufficiently important to be carried on the daily sick report.

Seven patients have been admitted here, and 3 are now in hospital.

Cases treated from August 26 to September 28, 277.

Cases sent to Ancon Hospital from August 26 to September 28, 16.

Emergency hospital, Culebra.

Month.	Number of patients treated.	Number of patients sent to Ancon Hospital.
June	194	16
July	224	41
August	302	26
September	517	26
October (until 13th)	214	10

Physician, Empire:

Total number of individual patients from July 19 to October 13..... 517

Total number of consultations from July 19 to October 13..... 876

Total number of patients transferred to Ancon Hospital from July 19 to October 13..... 6

The sanitary service has been in charge of the well-known sanitary expert, Col. W. C. Gorgas, U. S. Army, ably assisted by Medical Inspector John W. Ross, U. S. Navy, in the capacity of director of hospitals.

LANDS AND BUILDINGS.

As has been stated above, the total area of the Canal Zone, as described in the canal treaty and defined in the provisional agreement of June 16, 1904, is 448.379 square miles—this, of course, being computed by scale on the map.

The boundaries of the Zone, except so far as relate to the cities of Panama and Colon, have not yet been surveyed; a work which will probably require the services ultimately of a joint commission, consisting of members appointed by the United States and by the Republic of Panama.

The language of the canal convention, in article 2, has for the geographical description of the Zone:

A width of 10 miles, extending to the distance of 5 miles on each side of the center line of the route of the canal to be constructed; the said Zone beginning in the Caribbean Sea 3 marine miles from mean low-water mark, and extending to and across the Isthmus of Panama into the Pacific Ocean to a distance of 3 marine miles from mean low-water mark, with the proviso that the cities of Panama and Colon and the harbors adjacent to said cities, which are included within the boundaries of the Zone above described, shall not be included within this grant.

There is further provision that the United States may acquire any other lands and waters outside of the Zone as may be necessary for canal purposes. It will be found upon inspection that the boundaries marked for the Zone on the map, appearing as Exhibit E, are always exactly 5 miles from the line of the canal, and this results from a very peculiar shape or outline of the Zone itself, a shape which it is hoped may be corrected when the time comes to make a definite and permanent delimitation of the Canal Zone.

The area given above, about 448 square miles, may be subdivided into approximately the following areas:

Received by purchase from the New French Canal Company, 52.11 square miles; owned by the Panama Railroad, 68.12 square miles; the private ownership seems to amount to about 139.23 square miles; and the public lands owned by the Republic of Panama formerly, and now understood to be the property of the United States, in pursuance of the cession made by article 2, 188.91 square miles, making a total, as above, of about 448 square miles. Of lands owned by the Panama Railroad there are 12.87 square miles outside of the Canal Zone.

At the time of the purchase by the United States of the rights and property of the French Canal Company there was certain litigation in progress in the courts of the Republic of Panama that had resulted in the obtaining of judgments by the plaintiffs; in the execution of those judgments an embargo had been laid upon certain property of the New French Canal Company situated in the city of Panama.

In order to secure the interests of the United States Messrs. Day and Russell, in Paris, required that there should be deposited in their hands a sum of money sufficient in amount to satisfy these embargoes in case the French Canal Company should not cause them to be extinguished. Quite recently compromises have been effected by the New French Canal Company with the judgment creditors, and the embargoes laid upon the properties belonging to the Government in the city Panama have been canceled. This property, lately under embargo, consisted of the canal office building, for which the Canal Company paid 1,000,000 francs in the year 1881, and the other is the present residence of the chief engineer of the Canal Company, also in the city of Panama, for which at the same time 300,000 francs was paid. These properties are now worth much more than the price paid for them originally, and are very valuable assets of the United States.

On the island of Taboga, situated in the Bay of Panama and not within the Canal Zone, are 2 hectares of land (say, 5 acres) upon which, many years ago, was erected a large building to be used as a convalescent hospital or retreat, to which the employees on the Isthmus could go as a resort for better health conditions. This building is in fair condition and is being rehabilitated.

The landed properties taken over by the United States in France number in all 52, and all of them are traversed by the right of way of the canal. In the purchases made a considerable area of land was obtained by the Old French Canal Company that was not required for the canal purposes proper; but as the owners refused to sell a part, the purchases were made, in some instances, for the whole.

One of the first acts of the Old French Canal Company was the purchase of more than nine-tenths of the stock of the Panama Railroad, and by virtue of this ownership the control of the railroad passed into the hands of the French company. One of the acts of the board of directors was to authorize the conveyance of all the lands belonging to the Panama Railroad to the canal enterprise, which was done, and this condition of affairs continued until just before the canal went into bankruptcy; whereupon the lands were all reconveyed to the railroad company, and that is their status at the present time. These lands of the railroad company were considered as available for the location of the canal as were also the public lands of the State. So that, at the present time, it may be said that the canal location is situated within one of these three classes of landed property. There are one or two instances where private rights have not been procured, but in nearly every instance they have been. It is certain, however, that during the building operations the Government will require some additional land in order that space may be obtained for dumping the soil taken from the canal excavation. Other areas may be required for reservoir purposes or for rights of way for railroad diversions.

The Old Canal Company erected on its lands, or on the railroad lands, a very large number of wooden buildings with galvanized-iron roofs. At one time the total of these numbered about 4,000. At the present time, of the buildings that have not been removed, there are more than 2,000. During the period of cessation of work the managers of the Canal Company leased many of these buildings and a considerable revenue was obtained from this source. Large areas of land not required for canal purposes, and that never would be required for such purposes, were also leased to farmers and cattle raisers. The net amount of revenue derived by the French company from these leases reached upward of \$30,000 silver a year, and in pursuance of

the authority of the Secretary of War, the governor of the Canal Zone has continued the method of leasing lands and buildings for private ownership, the money received for the same being treated as a revenue of the Canal Zone.

The boundary lines of some of the tracts of canal and railroad lands are very indefinite, and controversies have occurred and will hereafter occur respecting the limits of those properties that abut upon private lands.

There are many cases where squatters have occupied canal or railroad lands and refuse to leave, asserting private ownership. These cases will have to be litigated.

PUBLIC WORKS.

As has already been stated in the preceding pages, there is nothing answering to the definition of this title in existence in the Canal Zone except the Government work of constructing an interoceanic canal, and the Panama Railroad in so far as its ownership makes it a public work, this ownership consisting of 98.4 per cent of public property.

Within the whole extent of the Zone there is not in existence a public road or highway or bridge except within the aggregation of houses along the line of the railroad. There are a few footpaths and pony tracks in the jungle made to reach detached hamlets and huts, but they are mere paths opened out with a machete, and upon which no grading or draining has ever been done.

There is one exception to the foregoing statement, and that concerns the city of Panama. During the time when the French operations were being carried on in an active way, a public highway was constructed at the expense of the Canal Company on land owned by the Canal Company from the western city limits all the way to the station La Boca, at the mouth of the Rio Grande River, which is now included in the new port of Ancon, and where are located the extensive wharves and terminal works of the Panama Railroad. This road, situated entirely within the Zone and also entirely on United States Government land, is maintained at public expense and is now being repaired so as to restore it to a condition of usefulness. The length of the road is about 2 miles, and its repair will cost probably \$3,000 or \$4,000 the first year, and about \$1,000 a year thereafter.

Extending from the city of Panama to the eastward is a road, metaled in part and in part simply a dirt road, constructed for the purpose of enabling certain of the better class of Panama merchants and landowners to reach their suburban homes in what are called "The Savanas;" that is to say, open prairies of considerable extent, situated all the way from 1 to 6 miles from the city. This road, for the first mile of its length, is situated within the city of Panama, as defined in the delimitation agreement of June 16, 1904. Beyond the city limits of Panama to the Zone limit on the eastward is a distance of approximately 2 miles, about one-half of which has been metaled in a rather indifferent manner, and the remainder is a dirt road. This road is within the Canal Zone, and the inhabitants of the city of Panama and those who are property owners within and without the Zone, in the neighborhood of "The Savanas," consider that it is the duty of the United States to maintain this road in a serviceable condition, which it is not at the present time in some places. The half of the road which is now poorly metaled and without any suitable provision for drainage will cost, to be completed, approximately \$3,000, and for the other mile, which is simply a dirt track, the expense of construction, drainage, etc., will amount to about \$5,000, as the broken stone for the road metal must be hauled a considerable distance.

Diverging from the road in question, at a point about half a mile from the city of Panama, is a road that was opened by the Old French Canal Company through private lands to the railroad station at Corozal, which is 3 miles toward Colon from Panama. The work done by the Canal Company in opening this road, while considerable as respects cost, did not leave anything like a completed road. It is now generally impassable, except for pedestrians and saddle or pack animals. The making of this road resulted in the claim of damages against the Canal Company, and in a judgment of damages to the amount of upward of 33,000 pesos which had just been paid by the New French Canal Company. By this payment the Canal Company acquired no right to any land whatever, but simply paid the owners of the land the amount stated because of damages assessed at that amount by the local courts.

The road from the canal headquarters at Ancon to La Boca must be maintained, as well as the roads which join the various hospital, office, and storehouse buildings situated at Ancon. The authorities of the Republic of Panama will be very much disappointed if the United States does not incur the expense, which seems to belong to the country exercising the equivalent of sovereignty, of maintaining the public highway already existing and referred to above from the city limits of Panama out as far as the Zone limits in "The Savanas." It would be very convenient, but not essential, to have the road repaired and made passable from Panama to Corozal.

where are a considerable number of buildings belonging to the United States, and which is an important center of dredging and other excavation work yet to be done.

In Cristobal some road work of a limited amount will be required to connect various buildings and workshops, but outside of those items referred to there is no necessity for any extensive expenditure in the way of public works. The municipalities should take care of themselves and pay for the expenses of keeping open mule trails and maintaining streets within villages; but all of the stations are connected by the railroad, and along the railroad track, in the cuts, and on the embankments are footpaths that suffice for the passing and repassing of pedestrians and ponies. It is not believed that any other public work than that referred to above will be required.

TELEGRAPHS AND TELEPHONES.

The franchise of the Panama Railroad was construed to include the right to operate works accessory to the same. This has been held to include the telegraph and the telephone. During the French canal operations independent lines for canal purposes were installed and were generally used, but not to such a great extent as they will be used in the future. For railroad purposes the railroad company have installed two or three wires along its own roadbed, connecting the termini and the principal stations. The railroad company had two or three main wires extending all the way across the Isthmus, serving all other stations.

In the Republic of Panama is a local telegraph, and in the city of Panama is a local telephone; the last, especially inefficient, and has not been in commission for some time past. The officers connected with the canal enterprise have found the telegraph and telephone service here exceedingly inefficient, and in the hope of improving the same, provisional arrangements have been entered into by which the canal wires have been turned over to the Panama Railroad, so far as operation and maintenance are concerned, and one telegraph and telephone system for both interests has just been installed, with modern instruments, and with a better equipment in every way, which it is hoped will render efficient service.

RECEIPTS AND DISBURSEMENTS.

The revenues collected from the inhabitants of the Canal Zone from the 4th of May to the 30th of September, 1904, are as follows, not including municipal revenues:

Item.	United States gold.	Local currency.
Total sales of United States postage stamps surcharged "Canal Zone" from July 17 to September 30	\$1,583.80	.....
The receipts from the sale of Panama postage stamps surcharged "Canal Zone" from June 25 to July 16	\$926.60
Sales of stamped paper used in official documents from July 17 to September 30, required by the laws of the Republic of Panama	112.20
Internal-revenue stamps required by the laws of the Republic from July 17 to September 30	4.80
Receipts from rents of lands, houses, and materials from May 4 to September 30.	10,617.88
Real-estate tax	248.70
Retail-liquor tax	3,657.15
Excise tax on distillation of rum	2,996.88
Taxes and fines collected by police	1,068.22
Collection from barrio of Parian	18.00
Slaughterhouse tax, a total of	2,487.35
Total	1,583.80	22,152.78

The disbursements made by the disbursing officer from May 19, 1904, to September 30, 1904, are as follows:

Item.	Salaries.	Supplies.	Total.
Isthmian Canal Commission	\$10,277.10	.....	\$10,277.10
Government of Canal Zone, as follows:			
(a) Sanitary and health	36,776.52	\$6,164.78	42,941.30
(b) Police department	14,477.54	.....	.....
(c) All other Zone expenses	6,542.62	2,309.25	23,329.31
Engineering department, including—			
(a) Material and supplies, disbursing office, and land administration	54,411.29	19,051.88	73,463.17
(b) Engineering proper	174,962.46	4,066.60	179,019.06
Grand total	297,447.43	31,582.51	\$29,089.94

Receipts and disbursements of the various municipalities of the Canal Zone from July 1 to September 30, 1904.

RECEIPTS.

Municipality.	Month.	Balance on hand June 1.	Licenses and taxes.	Police fines.	Total.
Emperorador	July	\$16.65	\$706.00	\$152.00	\$874.65
	August		1,036.50	111.00	1,147.50
	September		932.50	168.00	1,100.50
Gorgona	July	27.20	393.30		420.50
	August		385.40	51.00	436.40
	September		449.00	53.90	502.90
Buenavista	July	10.40	434.50	28.00	472.90
	August		421.90	56.00	477.90
	September		438.50	11.50	445.00
Gatun	July		208.50	95.50	304.00
	August		221.00	12.00	233.00
	September		250.50	32.50	283.00
Ancon	August		206.75	215.80	422.55
	September		283.75	172.00	455.75
Cristobal	July		644.00		644.00
	September		231.00	78.00	309.00
Total		54.25	7,288.10	1,237.20	8,529.55

DISBURSEMENTS.

Municipality.	Government.	Public instruction.	Justice.	Public works.	Treasury.	Total.
Emperorador	\$190.00	\$230.00	\$230.00	\$129.60	\$35.80	\$965.40
	250.55	210.00	339.00	120.00	114.75	1,034.30
	258.60	210.00	310.00	70.00	160.05	1,008.65
Gorgona	75.00	55.00	37.50			167.50
	75.00	110.00	80.00		43.60	308.60
	81.00	110.00	180.00		132.25	503.25
Buenavista	178.95	103.00	176.15			458.10
	185.75	90.00	120.00		47.80	443.55
	103.15	90.00	216.00		74.50	483.65
Gatun	56.20		65.00			121.20
	58.00	60.00	110.00		30.00	258.00
	56.00	40.00	130.00		30.00	256.00
Ancon	103.40				25.20	128.60
	12.50		262.75			275.25
Total	1,679.10	1,308.00	2,256.40	319.60	743.95	6,307.05

Total receipts \$8,529.55
 Total disbursements 6,307.05
 Balance 2,222.50

Respectfully submitted.

Rear-Admiral JOHN G. WALKER, U. S. Navy,
Chairman Isthmian Canal Commission.

GEORGE W. DAVIS.

SUPPLEMENTAL REPORT
OF
MAJOR-GENERAL GEORGE W. DAVIS, U. S. A. (Retired),
GOVERNOR OF THE CANAL ZONE.

TELEGRAPHS.

The public, wishing to send messages by telegraph across the Isthmus, or from or to intermediate points, have the means of doing so by using the Panama Railroad telegraph, and paying the customary tolls for the service; but the rates charged by the railroad company are far and way beyond what should be charged. The rate from Panama to Colon, and vice versa, and from Ancon to Cristobal and vice versa, is \$1 for 10 words, address and signature being both counted, whereas in the United States 10 words would be sent over a distance of 250 miles for 25 cents, without counting address or signature.

When the work is being carried on rapidly, as it must be, to insure the completion of the canal in the time set for its completion, the telegraph and telephone service on the Isthmus must be very active, and as no private line now exists, and, in the opinion of the undersigned, none ought to exist within the Zone, the railroad across the Isthmus ought to be treated just as the Panama Railroad is recommended to be treated; that is, as a Government line, incidentally performing some service for the public, which the public should pay for at a fair rate. Not that the Government desires to handle the private business; it is submitted that it would be much more preferable to have nothing to do with it; but the establishment of a local telephone and telegraph line here would be objectionable in many ways, and it therefore follows that if the public are to have use of the telegraph or telephone, they must make use of the Government line.

The Isthmus is connected with the outside world by two systems of cable communication; one is the Central and South American Cable Company's wire, which comes down from the United States via Galveston, to Mexico, Central America, and which is continued on in the Pacific Ocean to Valparaiso, and has a land line across the continent to Buenos Ayres.

The other is the West India and Panama direct cable system, whose wires reach all the West Indies islands, and also Key West. Both of these companies are doing business on the Isthmus. There is another outlet by way of Jamaica and Bermuda to Halifax, and so to the United States.

The Central and South American line, as the one "via Galveston" is generally called, lands its cable in Panama, while the West India direct line lands its cable near Colon. Neither company has an office on both sides of the Isthmus.

There has been a friendly rivalry between these two companies for some time past, the result of which is that the cable rate, for the Government only, has been reduced, since the undersigned arrived on the Isthmus, from 69 cents gold per word to 50 cents gold per word by one company, and to 55 cents by the other. Each of these companies is solicitous of obtaining a monopoly of the Government business.

DISBURSEMENTS.

The disbursing officer has been provided with funds for meeting the obligations of the United States on the Isthmus by deposit to his credit in the subtreasury at New York City, and by currency shipped directly to him from New York, in pursuance of arrangements made by the general treasurer of the Commission in Washington, D. C.

All of the help hired on the Isthmus, consisting of natives of the country, or of the neighboring West Indies Islands, have been in the habit of receiving their pay in the currency of the country; to have made a radical change to gold currency would have been very detrimental to those employees, and also to the United States. Recognizing this condition of affairs, it was at once seen that it would be highly desirable and advantageous to continue in the future, as in the past, to pay all the local or native help in the money of the country. This local currency consists of a Colombian coinage that has been many years in use. The bullion value of the Colombian dollar at the present time is \$0.403 in gold.

The political changes that have recently taken place on the Isthmus have brought about a condition of affairs, as is well known to yourself, that, in the judgment of the Panama authorities and in the opinion of the Secretary of War, made it highly desirable that a new coinage be substituted for the one sanctioned by Colombia and now in use. As an outcome of this state of affairs, an act has been passed in the National Assembly of the Republic which directs the coinage of a subsidiary currency in silver, to be of the same weight and fineness as the United States silver money. A peso, or dollar, to be received in business affairs, and as legal tender at 50 cents gold, and a deposit with a financial institution in New York City, has been arranged for, which it is expected will maintain the parity of this coinage with gold at that rate. This act of the national assembly was under discussion at the time of the transfer of the canal property to the United States. During the latter part of last year the rate paid for gold in Panama was frequently as high as 160 premium, but the agitation of the question of the new coin, coupled with the proposition to retire the old coinage at the rate of 225, at first proposed, and later on at 212½, caused the price of silver to rapidly advance on the Isthmus, so that, in the latter part of May, when the first sale of gold was made by the disbursing officer of the Canal Commission, the best bid for this was at a premium of 117.10, making the value of the local currency about 46 cents gold, whereas its bullion value, as stated above, was 40.3 cents.

At the time of the next sale in June the premium had fallen to 113.69 cents, giving the gold value of the peso 0.4679 cents. In July this

rate had advanced so that gold was worth a premium of 111.03. In August it was 110.36. It remained at that price through August. In September it advanced to 111.58. On October 10 the rate was 113.13, and on October 27 it was 113.89. The total amount of gold sold for the purpose of obtaining local currency for disbursement on account of the Government was about \$260,000. The act of the national assembly, providing for a new coinage, became a law in July.

The method adopted for the purchase of silver was to advertise in the local newspapers the needs of the United States, requesting merchants and bankers to tender for the purchase of checks on New York in any denomination up to the total amount of the proposed purchase. The largest sum in gold that has been offered for sale at any one time is \$50,000. It has usually been the case that two, three, or four times as much silver has been offered as the Government desires, so the best bids have always been accepted, and the rates paid for silver have been more favorable to the United States than the rates prevailing with the local bankers at the same time. The Panama Railroad is a purchaser of silver in considerable amounts, but its rate has not been quite as favorable as that obtained in the manner described.

The disbursements in gold, made by the disbursing officer of the Canal Commission on the Isthmus, in the form of salary payments to employees who are engaged at a gold rate, is having the effect of placing in circulation a considerable amount of United States money which the bankers are anxious to dispose of, because, otherwise, they must incur the expense and express charges of shipping the same to New York, so that usually the money required for local disbursements in the shape of United States currency can be obtained here in exchange for New York checks at a rate better than for the currency to be shipped here.

The International Banking Corporation of the United States has an agency here, and its representative has made a proposition which contemplates the appointment of this institution as the fiscal agent of the Government to supply all amounts of local currency as required on check, but no scheme has yet been submitted that can be entirely commended. All correspondence that has occurred on this subject has been transmitted to you.

PANAMA RAILROAD.

While the undersigned, as governor of the Canal Zone, no responsibility respecting the Panama Railroad, 98.41 per cent of which is owned by the United States, yet, as a member of the Canal Commission, to which body the control and management of this property has been committed by the President, it becomes his duty to call attention to any matters that should be reformed or made the subject of corrective action by the management that is responsible to the Government.

The acquirement by the United States Government of 68,887 shares out of 70,000 of the Panama Railroad, brings about a condition of affairs on the Isthmus that should result in a radical change of policy. The local rate for freight and passage across the Isthmus is a very high one, which, in the United States would be regarded as prohibitive.

The minority interests, represented by 1,113 shares, are held by the public at home and abroad.

The road is chartered under the laws of the State of New York, and

has a directorate consisting of 13 of its stockholders, who are elected at annual meeting, while vacancies occurring between such meetings may be filled by election by the board of other stockholders of record. The board also elects the officers of the corporation and management.

Under the charter the corporation was required to build and operate a railroad across the Isthmus, and was also authorized to operate steamships.

The road was constructed between the years 1850 and 1855 and has been open for business ever since. Its capital stock is divided into 70,000 shares, with a valuation of \$100 per share. According to the balance sheet published in the last annual report of the board of directors for the calendar year ending December 31, 1904—

The cost of the road, real estate, equipment and terminals is stated as

The value of its steamships, etc., is given as.....	\$12,045,258.32
There are other assets reported, consisting of sinking-fund bonds...	583,456.80
Advance of subsidy to Colombia.....	1,089,037.50
Various advances, credits, deposits, prepaid insurance, reaching a total of	a 887,000.00
	a 977,126.50

Total property and assets 15,581,879.12

The obligations and liabilities are thus reported:

Capital stock.....	\$7,000,000.00
Sinking fund, 4½ per cent bonds outstanding	3,159,000.00
Gold fund, subsidy bonds, 6 per cent proceeds advanced to Colombia.....	887,000.00
Miscellaneous liabilities, such as bonds not presented for redemption, accrued interest, funds for redemption of bonds due Republic of Panama, interest, unrepresented drafts, and coupons, etc.....	343,949.21

11,389,949.21

Balance in favor of the property 4,191,929.91

Total, as before..... 15,581,879.12

Since 1876 the capital stock has remained unchanged in amount, nor has any form of new stock security been issued. The cash dividends paid since 1876 to 1903, inclusive, have been as follows:

Year.	Percent- age.	Year.	Percent- age.	Year.	Percent- age.	Year.	Percent- age.
1876.....	12.00	1883.....	13.50	1890.....	5.00	1897.....	0.00
1877.....	12.00	1884.....	16.00	1891.....	5.00	1898.....	0.00
1878.....	12.00	1885.....	10.00	1892.....	4.00	1899.....	0.00
1879.....	13.00	1886.....	0.00	1893.....	0.00	1900.....	0.00
1880.....	16.00	1887.....	0.00	1894.....	0.00	1901.....	2.00
1881.....	34.26	1888.....	28.00	1895.....	0.00	1902.....	4.00
1882.....	12.50	1889.....	9.00	1896.....	0.00	1903.....	8.00

The total amount paid in dividends during the last twenty-eight years was \$14,928,200, an average income for the stockholders of 7.6 per cent, while the average income for the stockholders since 1890 has been about 2 per cent.

The stock of the Panama Railroad has not been quoted for many years, and so its market value is unknown, but it is not difficult to arrive at an estimation of the value of a stock, which in fourteen years has paid no dividends in eight years, and for the whole period has paid an average dividend of 2 per cent.

a Local currency.

In the Attorney-General's report to the President dated October 2, 1902, on the title proposed to be given by the New Panama Canal Company to the United States (Government Printing Office, 1902) there is a reprint of a report dated October 8, 1894, of "Commissaries appointed by the new Panama Canal Company, to value the contributions made to it by the liquidation of the Old Panama Canal Company." At that time the number of shares of the railroad owned by the canal company was 353, less than the number turned over to the United States, so the ownership by private parties at that time was 1,466 shares, and respecting the value of the stock, the commissaries remarked:

These 1,466 shares belonging to third persons appear to give rise to very infrequent transactions, and are not officially quoted on the Stock Exchange of New York. We do not definitely know what has been their market value, the sole information we are able to give is the value of 175 francs or thereabouts during the month of August last.

Then follows a statement of dividends paid and some comments, one which is, "The present situation of the railroad is not, therefore, favorable."

The annual report for 1903 gives the net income of the railroad and steamships at \$401,068, yet the road paid an 8 per cent dividend, or the sum of \$560,000, while in 1902 the net income was \$295,384, and the dividend paid was \$280,000.

But for the circumstances that the payment of the last dividend went to the credit of the French Canal Company, that had already bargained to sell its property to the United States, and that the Board simply did the bidding of the company, it is probable that the dividend of the company would not have exceeded its net earnings for the year.

The statement has been published recently to the effect that it has been found to be necessary to increase the bonded indebtedness of the railroad by the sum of \$250,000, the funds used to pay for steamship repairs ordered before the last dividend was paid, so an increased debt has followed payment of last dividend.

The number of shares of stock of the Panama Railroad now owned by the public is 1,113. At the price of the last sale quoted by the French Commission in 1894, say \$35 per share, which is about what one would expect a security to be worth that averaged a dividend of 2 per cent, these 1,113 shares would be worth, say, \$40,000. Would it not be a very wise act for the Government to acquire the ownership of this small interest?

The railroad company, under its charter, is authorized to operate steamships. It is now operating a line of steamers between New York and Colon, and some years ago maintained a line on the Pacific Ocean between Panama and the Central American ports, and also between Panama and San Francisco. As the railroad and the steamers are now practically owned by the United States, it results that the Government, as a majority stockholder, is a beneficiary under certain contracts made by the railroad company with other transportation companies on the Pacific Ocean, which agreements or contracts would be penalized provided they were within the jurisdiction of the courts of the United States, and that because they would be held to be contracts in restraint of trade.

It has been urged that the control which the Government can exercise over the business policy of the steamship company, its rates of freight and passage between New York and the Isthmus, is a valuable

power, as insuring the establishment and maintenance of reasonable rates, and so preventing extortion and combinations of forwarders.

If the United States went out of ocean transportation business there would be active competition, not only on shipments to Colon or Cristobal, but also to San Francisco. American steamers in large numbers are engaged in trade from New York to Venezuela, to Cuba, to Mexico, to Santo Domingo, to Honduras, to Costa Rica, and to Colon, and are successfully competing with foreign vessels for this trade, which in no respect is, in a legal sense, coastwise. It is only the trade between the eastern and western coasts of the United States via the Isthmus which must be conducted under the American flag.

If there should be an attempt to charge excessive rates on shipments to Colon or Cristobal, it only remains for the Government or contractors to forward their supplies and employees by chartering foreign vessels to Colon, a foreign port, and the combination would be broken in a day.

The present rate of cabin passage for the families of officers and employees of the Government via the Panama Railroad steamers and those of the United Fruit Company from New Orleans is the same.

The business of the railroad company last year yielded an income which in the opinion of the board of directors justified them in paying a dividend, and it is understood that a considerable part of this profit was secured through the transportation contracts referred to. The directors of the Panama Railroad and the attorney for the same are no doubt able to show, to their own satisfaction at all events, that the course being pursued is exactly the course that should be pursued, and that as a result of the policy the United States is a large beneficiary, but, according to the view of the writer of this report, under the present conditions the position taken by the directorate is wrong in principle as contrary to sound public policy.

The Government has never entered into competition with private and corporate commercial interests wherever it could be avoided. The only cases recalled where the United States has in effect engaged in some competition is with a few military telegraph lines installed for military reasons where private lines could not maintain themselves; and in order that merchants and private individuals residing in these remote localities might not be deprived of the means of quick communication with the outside world, the Government has provided, by law, that private messages may be accepted and forwarded at reasonable rates, and the money derived therefrom is required to be covered into the Treasury.

But in respect to the Panama Railroad the United States is competing in a very large way. If the steamship line now operated by the Panama Railroad between New York and Colon was not so operated, it is almost certain that some private concern would put on a private line between these two places, just as a private company has lately established a line between New Orleans and Colon. It is said that this New York-Colon line has earned large dividends in recent years, and it is expected that the dividends will be largely increased because canal shipments will make a much larger business than before.

All of this only shows that a private concern, not shut out by Government competition, would have no difficulty in establishing a line between New York and the Isthmus. The line now operating between Panama and San Francisco is a private line, and there is no

difficulty in obtaining a sufficient amount of business to keep the steamers employed that compose this line. If the United States would withdraw entirely from the steamship business, and would make rates for the transfer of freight across the Isthmus of Panama that are reasonable and just, say 50 per cent less than they now are, there is no reasonable doubt in the world, it seems to the writer, that the business now conducted practically by the Government would be taken up by private enterprise and the service be just as well performed. It is true that the United States, as a stockholder in the Panama Railroad, would not secure large dividends, but if it secured sufficient returns to pay for the cost of the service, it would have accomplished all that good, sound public policy requires.

It is impossible for the United States to withdraw its railroad from commercial business on the Isthmus, for the reason that it is the only transit route at this point, and there will not be another until the canal is finished. Commercial business across the Isthmus is very large, and it must continue to be handled by this single line of rails until the canal is ready to replace it, and as the United States is the owner of this railroad the United States must handle the transit business. In other words, the United States, or the Isthmus of Panama, so far as commercial affairs are concerned, has become the owner of a transfer route. If the railroad on the Isthmus stands ready at any time to receive merchandise from any shipper, no matter whence coming nor to what point billed, and to promptly forward it to the consigned vessels awaiting it on the opposite coast, and does this at a reasonable rate, the United States will have accomplished all that the most exacting person should expect of it, and all that a Government, as owner, should undertake to do.

If the United States would offer the steamers of the Panama Railroad Company for sale, on the condition that the purchaser should maintain a line, and should carry Government freight from New York to Colon at some specified reasonable rate, and should also transport employees and mails on satisfactory terms, we would be, as respects New York, in a similar position as we are now in as respects New Orleans or San Francisco.

This justified the recommendation, which is respectfully submitted, that the United States go out of the steamship business altogether, and that it make the Panama Railroad a simple transfer route for freight and passengers across the Isthmus, and that the system of general free passes, which now prevails, be stopped entirely.

This will result in a large diminution of revenue of the railroad, of course, but it will also result in a very large diminution of expense of management. The New York office can be given up entirely, for there will be no excuse for its maintenance, which last year cost \$95,000, and whose agency expenses at that point and in other places cost more than \$100,000, resulting in what might be called the general expense of the Panama Railroad and steamships considerably over \$200,000 a year.

The chief engineer of the Isthmian Canal Commission is one of the most experienced railroad builders and operators in the United States, and he could take charge of and manage the Panama Railroad, 47 miles long, a mere trifling incident of his engineering duties, and results of vast benefit to the United States would in that way be secured.

The United States, having no partner in the ownership of the road,

as it has none in the canal, would be privileged to dispense with the expensive organization that now exists, dissolve the corporation, pay off the indebtedness, and go out of the business as a common carrier on the ocean, and limiting her functions as such carrier on the Isthmus to the simple act of transferring from the Atlantic to the Pacific the freight and passengers, for the carriage of which there is no other means than the Government railroad.

The Republic of Colombia was entitled from the beginning to free passes for its troops, police, public officials, mails, etc., and under the Canal Convention recently celebrated between the United States and Panama this privilege has been continued as respects the free transit of persons in the public service of the Republic and her police force, also their baggage, munitions of war, and supplies.

About the time that the Panama Railroad was constructed, in order to secure rights of way across private land, those in charge of the railroad construction made contracts in considerable numbers, whereby they agreed that certain individuals or members of the family of a certain individual, and their posterity, should be entitled to travel free for all time upon the Panama Railroad. The consequence is that the number of natives now traveling on passes is very large, and is rapidly increasing and an abuse results. This is a state of affairs that ought not to be tolerated. Recently a gentleman lately married to a granddaughter of one of the earlier beneficiaries of a right of way pass contract applied for a permanent pass because of his recent merger by marriage with the family of the favored ancestor.

The rates charged for local freight are all so high as to become almost prohibitive. It would be good policy to lower these rates materially and encourage agricultural production along the line of the Canal, something which is now almost nonexistent.

TRANSFER OF CANAL PROPERTY TO THE UNITED STATES.

On the 26th of April, 1904, instructions were sent by the Secretary of War to Lieut. Mark Brooke, Corps of Engineers, U. S. Army, then on duty on the Isthmus of Panama, to the effect that in respect to the transfer of the property of the New French Company on the Isthmus of Panama he would act in conformity with the instructions that he might receive by telegraph from Messrs. Day and Russell, agents of the Department of Justice, then in Paris, for the purpose of representing the United States in receiving from the New French Canal Company the property belonging to that corporation on the Isthmus of Panama and in Paris.

On the 3d day of May, 1904, Lieutenant Brooke received by telegraph instructions from Messrs. Day and Russell as follows:

(Rec'd May 3d.)

MARK BROOKE,
United States Army, Colon:

See Colombian civil code eighteen seventy-three, articles seven fifty-four, follow where practicable, not too literally; have Renaudin assemble and present to your company's principal employees and inform them in your presence that he delivers all company's property and rights to you for United States, and that they are henceforth to mold under direction for United States; have Renaudin hand keys and books containing schedules of property, stating that he delivers property represented by them, then delivery reasonable complete. Cable immediately to us. Delivery as contemplated can be completed within two days and should be hastened as important action here awaits your announcement; transfer of railroad property unnecessary.

We get all rights and property whatsoever of canal company. Acknowledge this by cable. Corresponding orders of the company to Renaudin are as follows: In conformity with our agreement with Messrs. Day and Russell, please place Mark Brooke, United States Army, immediately in full and complete possession of all our properties, movable and immovable, hospitals, telegraphs, offices, works finished or in construction, materials on hand as they exist without listing or inventory, technical or other archives which may appear to him useful, books of account, the keys of all buildings, workshops, storehouses, and in general all the properties of the company, only excepted cash on hand and credits and the whole open, obtaining a general receipt. Please put all your personnel at the disposition of Mark Brooke, in order to prevent all interruption or disorder in the works or in the various departments of employment. He will give instructions which he may think useful for the direction of operations from the moment of his taking possession. Our expenses will cease from the moment of his taking possession. As to yourself, we pray you to continue your relations to us, for we will have instructions and powers to send you in order to reach the final and regular conclusion of the matter. Our address, Hotel Maurice.

DAY.
RUSSELL.

On May 3 Lieutenant Brooke furnished the chairman of the Isthmian Canal Commission with a copy of the telegram from Messrs. Day and Russell, as quoted above, and also informed the chairman that M. Renaudin, the director-general of the New French Company, had received instructions from his company to make delivery of the property. Lieutenant Brooke also stated that the transfer would take place on the following morning at 7.30.

The transfer was effected as arranged at 7.30 a. m., May 4, and is evidenced by the declaration of Lieutenant Brooke in words and letters as follows:

I, Mark Brooke, officer of the Corps of Engineers of the Army of the United States of North America, declare and state the following:

To-day, the fourth of May, nineteen hundred and four, early in the morning in my capacity as representative of the Government of the United States of North America, I came into the building situated in the city of Panama, known in that city by the name of "Hotel de la Compagnie," in which are located the central offices of the New Panama Canal Company, for the purpose of receiving in the name of my principal, the Government of the United States of America, all the properties, personal and real, of the above-named company, which are located in the Isthmus of Panama.

After having shown my authority and instructions, the director of the New Panama Canal Company made formal delivery to me of the said properties, personal and real, in the following manner:

He delivered the keys of the buildings and inventories of the properties, called together the principal employees of the service, and in my presence gave them instructions to place at my orders all the material in the storehouses of the company, and the storehouses themselves, and finally also in my presence he sent by letter and telegraph the same orders and instructions to all the employees of the company living in Colon and on the line between that city and Panama.

In consequence, I declare in the name of the Government of the United States of North America, which I represent in this act of transfer, that I acknowledge having received all the properties, personal and real, that belonged to the New Panama Canal Company in the Isthmus of Panama, which have passed into the possession of the Government of the United States of North America, my principal.

This receipt is written and signed in French, English, and Spanish.

MARK BROOKE,
2d Lieutenant, Corps of Engineers, U. S. A.

PANAMA, May 4, 1904.

The persons present at the transfer, besides Lieutenant Brooke and M. Renaudin, were Mr. W. W. Russell, United States chargé d'affaires, Mr. Joseph W. Lee, secretary of legation of United States, Mr. H. A. Gudger, United States consul-general, Dr. Claude C. Pierce, of the Marine-Hospital Service. Lieutenant Brooke's declaration was executed in French, English, and Spanish, and authenticated by the certificate of M. Renaudin.

Messrs. Day and Russell, in Paris, were immediately advised by telegram, as was also the chairman of the Isthmian Canal Commission, Washington.

Lieutenant Brooke immediately assumed charge, publishing this fact by a circular to all employees and agents on the Isthmus, as follows:

To the employees of the New Panama Canal Company:

The Director of the New Panama Canal Company has to-day transferred to me, as the representative of the United States possession of all the property and works of the Canal Company on the Isthmus of Panama, and I have assumed control and management of the same on behalf of the United States. I desire to request that all employees of the canal company on the Isthmus will remain for the present in the positions which they now occupy, performing their respective duties as heretofore.

Panama, May 4, 1904.

MARK BROOKE,
2d Lieutenant, Corps of Engr., U. S. A.

On the same day this official received instructions from the chairman of the Commission as follows:

Continue organization and work present organization. General Davis and paymaster with funds sail 10th.

It appears that the date of the transfer made in Paris was April 26, but as the delivery of the property on the Isthmus was made seven days later, Lieutenant Brooke did not consider himself authorized to assume for the United States any responsibility for expenditures incurred anterior to May 4. He requested the retiring French director-general to attend to this matter, which was done. The responsibility of the United States for expenditures on the canal works, therefore, commenced on May 4, 1904.

At the time of the transfer of the property of the New French Canal Company to the United States the force of employees working under the direction of the French Canal administration numbered 746, maintained at a monthly expense of about \$15,000 (gold).

The organization comprised a director-general, a disbursing officer, a sanitary service, supplies and material department, land and buildings department, and engineering department, all personnel reporting to and acting under the instructions of the director-general on the Isthmus.

CUSTODY OF PROPERTY—CANAL WORK AND ADMINISTRATION.

The undersigned arrived on the Isthmus on May 17, 1904, and immediately proceeded to Culebra, where he established his office and residence temporarily.

The orders and instructions given by the President of the United States and by the Isthmian Canal Commission respecting the care of property and conduct of the work on the Isthmus of Panama have been quoted on the first page of this report.

As respects operations in progress on the Isthmus, the control of the employees, the care of the property, and the management and direction of the interests of the United States, these orders were equivalent to a designation of the undersigned as the managing representative of the Isthmian Canal Commission, and he so styled himself. On the 19th of May he issued a notice to all employees as follows:

In pursuance of the instructions of the Isthmian Canal Commission, the undersigned, for and in the name of the Commission, assumed general direction of the

canal administration and works and control of all the property of the United States on the Isthmus that pertains to the construction of the ship canal connecting the waters of Atlantic and Pacific oceans.

There was also announced, in subsequent paragraphs of the same paper, an organization as follows:

Engineering.—Comprising the direction of all engineering works, construction and maintenance of buildings, roads, telegraphs, water supply and sewerage systems, and other auxiliary works, and the prosecution of scientific investigations, Maj. William M. Black, Corps of Engineers, U. S. Army, in charge.

Executive office.—Comprising the supervision of correspondence, the custody and preservation of general records and files, legal matters, and telegraphic and postal services, Mr. Harry D. Reed in charge.

Accounts.—Comprising accountability and disbursements of all vouchers requiring approval by the undersigned, Paymaster E. C. Tobey, U. S. Navy, chief of the department.

Material.—Comprising the purchase, custody, and issue of all plants, tools, material, and supplies for all departments, Mr. E. Hauer, acting chief of the department, under the general supervision of Paymaster E. C. Tobey, U. S. Navy.

Buildings and grounds.—Comprising the custody of all canal lands and all buildings not assigned to other departments, the custody and preservation of all records of lands, including leases, and the rental of the real property of the United States on the Isthmus pertaining to the canal, Mr. C. Bertoncini, acting chief of the department.

With this organization the work was resumed on the date first given above, and was continued under the same general organization until August 1, 1904, when a quorum of the Commission being present on the Isthmus, the undersigned was relieved from all further responsibility as managing representative.

The only work in progress during this period was the continuation of that carried on by the French Company in the way of excavation on the summit cut at Culebra. Major Black, as engineer in charge, directed these operations.

During the month of June several parties of engineers, organized in the United States, were sent to the Isthmus, and reported to the managing representative for certain technical work, such as surveys and borings. Early in July other parties, organized for a similar purpose, arrived, and by the end of July four such detachments of about 25 engineers and assistants each, were employed under Mr. Charles List, at Colon; Mr. A. B. Nichols, at Gatun; Mr. H. F. Dosé, at Bohio; and Mr. Boyd Ehle, at Bas Obispo. The general supervision of the work of these parties came under Major Black.

Near the last of June Mr. John F. Wallace, who had been engaged by the Isthmian Canal Commission as chief engineer, arrived and reported to the undersigned. No instructions in respect to the scope of his duties having been received from the Commission, he was announced by the managing representative as the chief engineer of the Panama Canal, and he took charge of those duties on July 1.

The announcement stated that "His duties comprise the direction of all engineering works, the construction and maintenance of buildings, roads, water supply and sewerage systems, drafting, sun printing, and lithographing, and the prosecution of all surveys, borings, soundings, and other scientific investigations."

On August 31 the Commission in session on the Isthmus adopted the following resolutions:

Resolved, That the chief engineer be placed in charge and control of the construction of the Panama Canal, and of the sewerage and waterworks system for the cities of Panama and Colon, and of all engineering works connected with these several

projects, and that he shall have general supervision and authority over all matters pertaining thereto, under the direction of the Isthmian Canal Commission, subject to its approval and in accordance with such instructions as the Commission may issue from time to time. The chief engineer will report and receive his instructions relative to these matters through the chairman of the Commission.

Resolved, That the chief engineer, under the direction of the governor of the Canal Zone, shall have charge of the planning and construction of roads, buildings, and other structures, and of the planning and installation of machinery required by any department of the government of the Canal Zone and authorized by the Isthmian Canal Commission.

Resolved, That the chief engineer shall make monthly progress reports and, on or before July 31 of each year, an annual report covering all operations of his department during the fiscal year ending June 30; also such other reports as may from time to time be called for by the Commission. He shall at once furnish a copy of each report to any member or members of the Commission on the Isthmus.

Mr. Wallace became responsible for the direction of the work of his department on July 1, and, as above stated, the managing representative of the Commission ceased to be the channel through whom the chief engineer reported on August 1.

The expenditures for engineering on the Isthmus of Panama from May 4 to June 30, 1904, reached the aggregate, for services, \$18,003.03, and for material and supplies, \$100.37, making a total for expenses of \$18,103.40.

About July 1, 1904, Col. William C. Gorgas, Medical Department, U. S. Army, detailed by the Secretary of War to report to the Isthmian Canal Commission, arrived on the Isthmus and entered upon his duties as chief sanitary officer.

At the same time Dr. John W. Ross, medical inspector, U. S. Navy, was appointed by the Commission as director of hospitals, and a few weeks later Maj. Louis A. La Garde, Medical Department, U. S. Army, was assigned as superintendent of Ancon Hospital, while Doctor Spratling, who had been acting as chief sanitary officer, was assigned as superintendent of Colon Hospital.

All these officers entered upon their duties immediately, and from time to time, up to the date when the responsibilities of the undersigned as managing representative ceased, a considerable number of employees arrived on the Isthmus for various duties specified in the letters of appointment.

One week after the arrival of the undersigned, Col. Frank J. Hecker, member of the Isthmian Canal Commission, also came to the Isthmus under instructions, a copy of which is herewith. (See Appendix N.)

In the announcement made by the undersigned on May 19, 1904, appears the following in respect to Colonel Hecker:

It is further announced that Col. Frank J. Hecker, member of the Isthmian Canal Commission, has been assigned by the Commission as general coadjutor to the undersigned on the Isthmus, his duties including the general supervision of the receiving, listing, assorting, and storing of the property and material here recently purchased by the United States; the preparation of schemes for repair of buildings, consolidation and renovation of work shops and store houses, more effective care of material and supplies and reorganization and reduction of the force of custodians of property; also the observation of the methods of management of the Panama Railroad, but without intervention in or direction of the control by present local officers. In short, he is to make a critical general inspection, and to collect all procurable useful data for the Commission respecting the canal property and the business affairs on the Isthmus of Panama now controlled by the United States.

The services of Colonel Hecker were of great value, a fact which has already been officially reported to the Commission.

The members of the Isthmian Canal Commission who arrived on the Isthmus on August 2, 1904, returned to the United States on September 7, 1904, Colonel Hecker accompanying them, leaving the undersigned as the only member of the Commission in the Zone, whose duties, including those of chief executive of the government, embraced a certain fiscal responsibility expressed in the following quotation from the resolution of the Commission:

Resolved, That this Commission shall authorize and appoint one of its members to approve vouchers for payments by the disbursing officer on the Isthmus of Panama, signing as a member of the Isthmian Canal Commission, and to act for the Commission in the absence of a quorum of the Commission on the Isthmus, in conferences with the Government of the Republic of Panama and the municipal authorities of the cities of Panama and Colon, his action in such conferences and negotiations to be subject to approval by the Commission, and that Maj. Gen. George W. Davis be authorized and appointed to act as such member.

Over the departments of engineering, material and supplies, and disbursements the undersigned has no authority. The chiefs of these departments report in all matters directly to the chairman of the Commission in Washington, D. C. In reaching a decision as to whether or not a voucher should be approved or disapproved, the member of the Commission to whom this duty is assigned utilizes such knowledge concerning the business, work, or services represented by the expenditures as he can obtain by observation or inquiry. The correspondence of the chiefs of these departments on matters outside of the Zone government being direct with the authorities in Washington, D. C., the member of the Commission required to approve vouchers necessarily has but a partial knowledge of facts which should be known to him before exercising so important a function as deciding whether or not an account should be paid.

While the orders give the chief engineer entire independence as respecting the resident member of the Commission, he is required to furnish the said member with copies of his reports to the chairman. Up to the present time, October 1, no such reports have been received, but this circumstance is perhaps due to the fact that Mr. Wallace has been absent from the Isthmus since the 14th of September last.

The only work in the nature of original investigation initiated by the undersigned while he was in charge of engineering operations on the Isthmus consisted of a tentative development of the resources for water supply of the upper Rio Grande, the thought being to utilize the reservoir already constructed for another purpose and to increase its capacity, laying water pipes from it to the city of Panama, so that that city, as well as the canal headquarters and hospital in its immediate vicinity at Ancon, might secure a supply of potable water, which it was contemplated the United States would provide for Panama, under the terms of article 7 of the canal treaty.

Enough data to show that this source of supply would be available and probably adequate to the needs was collected and this information was handed to the chief engineer upon his arrival on the Isthmus. He has adopted the idea suggested in its general features and has developed a working plan, which has been adopted by the Commission, for a system of water supply for Panama.

LABOR.

This is a subject which is going to present many difficulties to the Commission, and a solution has not yet been reached. The total number of employees on the canal work on the Isthmus on September 30, was as follows:

	Salaried employees paid in gold.	Laborers and others of similar classes paid in silver.
Engineering department	218	1,948
Material and supplies department.....	28	265
Accounts and disbursements	7	-----
Sanitary department	97	453
Police department.....	87	-----
Other departments of the Zone government.....	34	9

Since September 30 the numbers have been increased about 25 per cent, which would make at the present time a total force of employees of about 3,500.

A good deal of private work is now in progress on the Isthmus, such as house construction, and all the mechanical and other labor that is available is now engaged. The engineering department needs 1,000 men at the present time, and the sanitary department about 300 more; but they are not obtainable. On account of the dearth of labor, and competition between the railroad, the government, and private employers, the prices are advancing. The general character of those arriving and seeking employment is not a good one for economical laboring work. Nearly all of those now employed are negroes and about one-half of them are natives of the West Indies Islands, or foreigners, principally Jamaicans.

The labor is not efficient. In the opinion of those who have been employing colored and white labor in the United States, the wages paid now to the ordinary laborer, amounting to \$1.50 silver a day, are really higher than the rates prevailing in the United States of \$1.50 to \$2 gold. The total number of laborers employed on the canal at the time of the greatest activity of the French company is said to have been about 15,000.

It is hoped by the chief engineer to accomplish a great deal of the work of excavating the canal by mechanical means, so the number of laborers will be less than otherwise would be the case; but, nevertheless, a very large number of persons of the ordinary working class must be engaged for service upon the Isthmus before the canal work begins. It seems as if it will be necessary to obtain them under some arrangement of a contract obligation. To bring men from the United States at a great expense, and then have them immediately take their departure because they can obtain higher wages either on the Isthmus or by going to the gold mines or to South American States, is very poor business. It will be impossible to make any rapid progress, even in the limited work that is now going on, unless a larger force of laborers can be obtained.

It is useless to discuss the question of utilizing the white race for heavy out-door work with pick and shovel, in the mud and rain, on the Isthmus; no one has ever succeeded in obtaining such a force of the

Caucasian race. Negroes from the Southern States would of course be available, but the expediency of bringing them here is doubted, for they will be immediately placed in competition with their own race in the vast numbers that are already here, and I should not expect that harmonious relations between them would result; especially if one was paid wages current in the United States, and another black man on the Isthmus was paid the wages current on the Isthmus, there would be constant friction. It is important that measures be taken to solve this problem as soon as possible.

The above covers the general subjects that have occupied the attention of the member of the Isthmian Canal Commission who has been stationed on the Isthmus from the 17th of May, 1904, to the present time.

There is one branch of public administration the handling of which has presented some difficulty and has involved a large amount of clerical and other work. I refer to the discussions that have taken place between the governor of the Canal Zone, on the one part, and the authorities of the Republic of Panama, on the other, touching the matters of customs ports and revenues.

As this subject has been taken up in a diplomatic way, and as the incident is not yet closed, a special report on this branch of the duties that have devolved on the governor is herewith submitted.

Extract from letter from General Davis to Chief Engineer Wallace.

ANCON, ISTHMIAN CANAL ZONE, May 2, 1905.

(Personal.)

MY DEAR MR WALLACE:

* * * * *

MAY 3, 1905.

P. S.—The foregoing was dictated yesterday, and since then four other cases of fever have been diagnosed as “yellow fever” and taken to the hospital. Two of these cases are light and will cause no serious sickness. The case which gives the most concern now is that of Mr. West, the auditor, who has been sick two days, and in respect to whom the prospects are that he will be very seriously sick, as I am informed by Colonel Gorgas.

How the infecting of the Canal building has been accomplished is not easy to understand. Of course a larger number of nonimmune people are employed in that building than in any other in the city, and it is a wonder to me how it is that we have not had many cases among those employees who do their work in this building since I have been here.

An examination by an inspector yesterday disclosed the fact that in the bowls in which are kept the moistening brushes for letter-press books—eight were found in the building—in all but one were found the larvæ of mosquitoes. There was only half a gill of water in each bowl and only a narrow slit for access to it. I am having the screens all carefully examined, and an inspector will critically watch and examine everything in the building that could furnish a harbor for mosquitoes. All the screen doors on the balconies will have locks placed on them and the key for each placed in the hands of a designated individual, who will be held responsible to see that the doors are always shut.

The trouble over the Jamaicans working in Panama under Mr. C. E. Davis, which occurred three or four days ago, originated in a scold and complaint about food, for, as you know, these men were hired, were contracted for, to be paid and fed by the Panama Railroad. I called upon Mr. Prescott for any information he could give me concerning the status of the affair with regard to these men and the feeding contract, and he says that the feeding was done by the same contractor who had been for some time past doing this same kind of work for other gangs of men working for the railroad; that the price paid for board was 70 cents (silver) per day per man.

Mr. Claude Mallet (British consul), who was complained to in regard to the treatment of these Jamaicans, told me that he went to the barracks and examined the food which he saw served, and he was quite satisfied that what was being given to the men was entirely suitable and abundant in quantity; but since then he has written to me officially, saying that complaints have since been made which indicate that the food served is not what it should be.

I have given Captain Shanton directions to have all meals set out for these men examined daily—morning, noon, and night—and a record kept of what was served, what complaint may have been heard by the

inspector, and what basis, if any, there was. In this way I expect to be able to collect some data on the subject. I realize that, strictly speaking, it is none of my business, but as I feel anxious that the work shall be pushed along without any hindrance or delay, and to have possible causes for complaint removed, and as the situation respecting the feeding of these laborers is very serious, and as the chief of police, under my orders, is available to make this investigation, it seems to me desirable to collect the data; and this I am having done.

The attack upon the laborers by the Panama police resulted from an appeal or a request made to the Panama police by Mr. Barril, who saw that there was likely to be trouble, the men having refused to go to work because it was claimed that they were insufficiently or unsuitably fed. Mr. Barril asked the police to compel them to go to work, and it was complying with this very improper request that brought about the first clash. I learn that the first blow struck was probably by a Jamaican throwing a piece of broken stone at a policeman. Then there was a general sort of a *mélée*, and three policemen were injured, the policemen using their guns and bayonets as one would use a club. Several of the injured Jamaicans at the Chiriqui Barracks went over to the administration building, together with a considerable crowd, and there Captain Shanton saw them, and he went to the place where they were congregated—about 75 to 100 in number—several of them cut and bleeding, and these he lined up separately, so as to keep them out of the other crowd, intending to send for an ambulance to take them to the hospital, but just at this time a cordon of about 30 Panama police came down at double time from the police station and halted in front of the canal building.

Captain Shanton called out to them in Spanish to wait, and pointing to these men, said: "These are wounded men." One of these men started to move away from where he was standing, whereupon the lieutenant of the police squad drew his sword and struck a very severe blow at the Jamaican, knocking him down and cutting him badly. Then the whole thirty men, with their guns and bayonets, proceeded to rush at these men, who were waiting at the canal building and who certainly had in no way committed any violation of the peace or done anything that should have subjected them to an assault. The Jamaicans broke and ran in all directions, pursued by the police; but so general was the apparent purpose of the police to assail the negroes that wherever any were found at work in the trenches—whether they were half a mile away from the canal building or at the Chiriqui Barracks—they were set upon and pounded, crushed, and bruised by the police.

Mr. Mallet, the British consul, told me that he knew for certain that beyond the Caledonia Railroad station some of the Jamaicans, who did not even know that there was a row, were set upon by the police. Mr. Mallett is naturally indignant, and has made a representation, as I understand, to the Panama Government. Mr. John Barrett, our minister, who also saw what Captain Shanton saw, made a similar representation to the Panama Government. I was in my house on that day, by order of the doctor, and not allowed to leave it, so that my knowledge is derived only from hearsay.

I directed Captain Shanton to make a report to me of what he saw, and I sent his report to the Panama Government on the following day, with a statement to the effect that I purposed to forward to the Gov-

ernment in Washington a report of the occurrence, and that if they should deem it fit to inform me as to any action, or proposed action, of the Panama Government, I should be glad to forward the same to Washington; but I had no reply from the minister for foreign affairs, and I have not been able to ascertain to-day from Mr. Barrett whether he has received any response from the Panama Government.

The original fault was due to Mr. Barril's request of the police of Panama to drive these Jamaicans to work. I suppose that some of our foremen are free and unlicensed in the use of language toward these Jamaicans, just as I have seen American foremen in the United States use with respect to negroes, to Italians, and to Chinese that is, such people, including all Latin-Americans, Filipinos, Malays, and Sandwich Islanders; in fact, everybody of a dark skin. According to the ideas of some of our tougher class of Americans, among whom I fear are a good many of our foremen and overseers on the Isthmus, all such people are designated as "niggers." They thus refer to them, usually with prefixes of oaths and obscenity. These words are let drop in the presence of men who are not accustomed to it, and they naturally resent it, and as a result a great deal of bickering and hard feeling grows up between the Jamaican laborers and the American foremen.

I have done all I could in every way by the exercise of moral persuasion, and by prosecution in the case of those who violate the law; but it is very little that one can accomplish in the face of a set determination of the low-class Americans to generally illtreat these negroes. I think that part of this trouble has grown out of that state of affairs, and I think it is likely to continue until we have a class of men here who will be more careful in the use of language, and who will treat any man who behaves himself as a man.

In talking about this plan of feeding laborers by contract, Mr. Mallett remarked that in his experience among West Indian negroes it was a very bad plan, indeed—that is, to make a contract for feeding these men—because, he says, it is one unending source of complaint. One man does not like rice, another does not like beans, another does not like plantains, and another does not like potatoes, and they all scold and find fault and grow sulky over it and make all sorts of trouble. He says that in his judgment it is far better not to attempt to feed these people.

I reminded him of the conditions that exist here, stating that it was absolutely necessary that we should feed these men where we bring them to the Isthmus the way we do and where they have no permanent homes. He said that he, of course, realized that special conditions might make it necessary, but he says that it is better in the long run to pay them their wages and let them feed themselves.

I inclose herewith, from the Star and Herald of this morning (May 3), a clipping which gives a fair notion, I think, of what is in the minds of the Panama people on this general subject about which I have been writing to you. I inclose also some letters from a couple of Jamaicans.

I am writing this long letter to you instead of to Mr. Shonts for the reason that you, personally, know the condition of affairs here while Mr. Shonts does not, but I feel sure that you will bring to the attention of the chairman everything I write to you that will be of interest to him.

Copy of proclamation submitted by General Davis.

ISTHMIAN CANAL ZONE, PANAMA,
OFFICE OF THE GOVERNOR,
Culebra, May 19, 1904.

To the Inhabitants of the Isthmian Canal Zone:

In pursuance of the terms of the canal convention between the United States and the Republic of Panama, the ratifications of which were exchanged on the 26th day of February, 1904, the Republic of Panama granted to the United States, on the Isthmus of Panama, the perpetual use, occupation, and control of a certain zone of land 10 miles in width, and land under water, including the islands within said zone and also the islands of Perico, Naos, Culebra, and Flamenco, situated in the Bay of Panama, and the use, occupation, and control of certain other lands and waters outside said zone, which may be found to be necessary and convenient, all to be utilized for and in connection with the construction, maintenance, operation, sanitation, and protection of the ship canal which the United States is to construct, and which will extend from the Caribbean Sea, near Colon, to the Pacific Ocean, near the city of Panama.

In addition to the perpetual use, occupation, and control of the lands and waters referred to, the Republic of Panama has also granted to the United States all the rights, powers, and authority within said zone, auxiliary canals, islands, and lands under water, which the United States would possess and exercise if it were the sovereign of the territory granted, to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, and authority.

The Canal Zone and all the real and movable property situated within it that formerly belonged to the New Panama Canal Company have been purchased and taken possession of and are now occupied or controlled by or on behalf of the United States of America.

For the maintenance of order within the territory above described, the use, occupation, and control of which have been granted to the United States, and in order that the inhabitants may be protected in the full enjoyment of their liberty, property, and religion the President of the United States has been empowered by the Congress to establish a temporary government for the Canal Zone, to which end he has been authorized to delegate to such person or persons as he may designate, and to control the manner of their exercise, all the military, civil, and judicial powers and authority granted to the United States by the Republic of Panama, as well as the power to make all needful rules and regulations.

With respect to the government and administration of the Canal Zone, the President has delegated to the undersigned, as governor of the Zone, all necessary executive and administrative attributes, with power to appoint the officials and organize the police force necessary to preserve order and to carry out the purposes of government on the Isthmus. The power to make rules and regulations—in short, all matters of legislation for the Zone and its inhabitants—have been delegated to the members of the Isthmian Canal Commission, of whom four constitute a quorum for legislative purposes, but it is provided that the governor of the Zone and the Legislative Commission shall exercise

their powers and authority and carry on their work always under the supervision and direction of the Secretary of War.

The President has ordered that the laws of the land which were in force on the 26th of February, 1904, shall continue in force in all places on the Isthmus of Panama over which the United States has jurisdiction, until said laws are altered or annulled by the Canal Commission, and the people are entitled to security in their persons, property, and religion, and in all their private rights and relations. They will be disturbed as little as possible in their customs and avocations that are in harmony with the principles of well-ordered and decent living, but there are certain great principles of government that have been made the basis of our existence as a nation which are deemed essential to the rule of law and the maintenance of order, and will have force within the Canal Zone and within other lands on the Isthmus that are controlled by the United States. The principles referred to may be generally stated as follows:

That no person shall be deprived of life, liberty, or property without due process of law; that private property shall not be taken for public use without just compensation; that in all criminal prosecutions the accused shall enjoy the right of a speedy and public trial, to be informed of the nature and cause of the accusation, to be confronted with the witnesses against him, to have compulsory process for obtaining witnesses in his favor, and to have the assistance of counsel in his defence; that excessive bail shall not be required nor excessive fines imposed, nor cruel or unusual punishment inflicted; that no person shall be put twice in jeopardy for the same offence, or be compelled in any criminal case to be a witness against himself; that the right to be secure against unreasonable searches and seizures shall not be violated; that neither slavery nor involuntary servitude shall exist, except as a punishment for crime; that no bill of attainder or ex-post facto law shall be passed; that no law shall be passed abridging the freedom of speech or of the press, or of the rights of the people to peaceably assemble and petition the government for a redress of grievances; that no law shall be made respecting the establishment of religion, or prohibiting the free exercise thereof.

Provided, however, That the Commission shall have power to exclude from time to time from the Canal Zone and other places on the Isthmus over which the United States has jurisdiction persons of the following classes who were not actually domiciled within the Zone on the 26th of February, 1904, viz, idiots, the insane, epileptics, paupers, criminals, professional beggars, persons afflicted with loathsome or dangerous contagious diseases, those who have been convicted of felony, anarchists, those whose purpose it is to incite insurrection, and others whose presence it is believed by the Commission would tend to create public disorder, endanger the public health, or in any manner impede the prosecution of the work of opening the canal; and may cause any and all such newly arrived persons, or those of the same classes alien to the Zone, to be expelled and deported from the territory controlled by the United States, and the Commission may defray from the canal appropriation the cost of such deportation, as necessary expenses of the sanitation, the police protection of the canal route, and the preservation of good order among the inhabitants.

The President has further directed notification to the inhabitants of the Canal Zone that the establishment and maintenance of lotteries and

the holding of lottery drawings, or sale of lottery tickets, or the conduct of gambling methods and devices of a character that is prohibited by the laws of the United States, are to be strictly forbidden by the Canal Commission, within the Canal Zone, and that any violation of the law respecting lotteries and gambling, to be enacted, will subject the offender to severe punishment.

The municipal laws of the Canal Zone are to be administered by the ordinary tribunals substantially as they were before the change of government. Alcaldes, comisarios de barrios, and other persons in lawful discharge of official duties in the Zone that are in harmony with the principles of government herein set forth will be continued in office for the present. A judge of a superior court will soon be appointed, and as soon as practicable the limits of the Zone will be defined.

The following announcements are made of heads of departments in the government of the Zone:

Secretary, Mr. Ernest Lagarde, jr. . . .

Treasurer, Paymaster E. C. Tobey, United States Navy.

Captain of police, Mr. G. R. Shanton.

Sanitary officer, Dr. L. W. Spratling, U. S. Navy.

GEO. W. DAVIS, *Governor.*

Supplementary written statement of William H. Burr, esq.

280 BROADWAY, NEW YORK, *March 29, 1906.*

DEAR SIR: On reading over my testimony, given before your committee, I find a few points on which I should like the privilege of extending the observations which I have already made, if such a privilege is consistent with the procedures of your committee.

In my testimony concerning the proposed Gamboa dam, whether it be made of all concrete masonry or of a heavy concrete masonry core in a great earth embankment, the height of such masonry from bed rock 50 feet below the bed of the river to the highest water surface of the lake would be 170 feet. In any event the construction of this dam involves no procedure other than that which has commonly been used heretofore.

Nor is this total height of masonry nearly as great as is found in some existing masonry dams. One instance only need be cited in this connection. The masonry dam recently completed at the new Croton reservoir of the water-supply system of the city of New York has a total maximum height from the bed rock on which it stands to the highest water surface of 241 feet. This height is 71 feet in excess of that proposed at Gamboa.

In discussing the relative costs of the sea-level and lock type of canal I did not give the interest charges during construction because it is such a simple and ordinary procedure; but I should perhaps have stated that any computation of interest charges for a period of construction of the sea-level canal longer than twelve or thirteen years is without any real foundation.

As has been shown, and as is indicated in the majority report, the simple character of work—i. e., excavation and transportation—required

in the construction of that plan will enable the estimated time of completion to be shortened rather than lengthened, whereas in the lock plan the complicated character of the construction of the six locks and other masonry works would be likely to extend the time required for construction beyond that estimated.

In reading testimony given subsequent to mine I find some of my observations relating to the transformation of a lock canal to a sea-level canal misunderstood. I stated that it was the opinion of the board, both majority and minority, that if the recommended lock plan should be adopted the cost and time required for the transformation of that particular lock canal to a sea-level canal would be so great as practically to preclude the procedure for an indefinite future period. In other words, the difficulties and cost of that particular transformation would be so great as to make it practically not feasible.

I stated specifically that the best lock plan, in view of future transformation to a sea-level plan, would be found by carrying the sea-level portion on the Caribbean end nearly or quite to Obispo, and on the Pacific end to Miraflores, with the lock portion between these two points. That plan would be far more easily transformable to a sea-level plan than that recommended, and the operation of transformation would involve a minimum of waste. For the reasons extensively given in the majority report and in the testimony, I believe, however, that it would be far better in every way to construct the sea-level plan at once.

My testimony regarding the silting of the channel of the lock plan in the upper reaches of Gatun Lake between Tavernilla and Obispo has been questioned. The concentration of the current in such a submerged channel as that between Alhajuela and Tavernilla, with such depths of water over the original banks as would exist in Gatun Lake, is precisely what is observed with any submerged river bottom similarly flooded in this country. It is a common hydraulic observation.

The assumption that the water moves uniformly across such a submerged valley and its use in computations of velocity of water under such conditions indicates a gross lack of familiarity with this particular class of river hydraulics, as it is directly at variance with the results of natural observation. The first Isthmian Canal Commission of 1899-1901 recognized the inevitable silting of this submerged channel with precisely the same elevation of water surface, and stated on page 63 of its report that a velocity of 5 feet per second might be reached during floods in the narrowest part of the lake.

The streams located between Gamboa and Bohio, draining a territory from 100 to 150 square miles, and for which provision has not been made for taking their waters entirely away from the canal prism, are all so small that it is difficult to make any definite estimate of even their flood discharges. This amount has been estimated by the minority as high as 29,000 cubic feet per second by taking it at one-fifth of the supposed discharge of the great flood of 1879. It should be borne in mind at the outset that there is not only no record of any such flood volume as 140,000 cubic feet per second at Bohio, but there is no reliable estimate of such a flood.

The most reasonable estimate from indirect evidence is that of General Abbott of only 112,000 cubic feet per second, which would make the maximum estimated flood flow of the small streams in question, if all were in flood concurrently, 22,000 cubic feet instead of 29,000.

This freshet flow of a large number of very small streams is, however, a diffused flow from a drainage area a large portion of which is of such a character as to prevent a quick discharge. Furthermore, the diffusion of a flood flow into a great number of small streams, most of them so small as to be dry in the dry season, will practically destroy the eroding power of any floods that may occur in them, thus reducing to almost insignificant volume the silt brought down by them in comparison with the erosion which would be produced by concentrating the total discharge into two or three streams of greater magnitude. The sedimentation basins, therefore, provided in the sea-level plan between Gamboa and Bohio, are abundantly ample to receive and retain practically all the silt brought down by the rivulets in question.

In my testimony I cited the case of the flow of water from a small underground channel at a depth of about 125 feet below the river surface above it through a boring made in the Hudson River near New Hamburg, N. Y., in the course of investigations for the additional water supply of New York City. As it was intimated in subsequent testimony that this flow was found in a boring through rock, it is well to state the fact that this water was found beneath a thick bed of clear clay a few feet above the bed rock. The water as it flowed up through the boring pipe made a fountain or jet with the water rising 15 or 20 feet above the river surface. It was a clear case of a small underground flow under pressure between two strata of different quality or texture.

In case of more or less permeable strata of varying quality overlying each other, a comparatively large amount of seepage or flow is liable to take place along surfaces of separation where the texture changes from one quality to another. This is so well recognized in the making of artificial filter beds for public water supplies that the greatest care is taken to avoid any sudden change of texture at any point in the filtering mass, because it has been observed that the water is almost certain to find its way in small thin channels wherever such a break or sudden change of texture occurs. The formulæ for the computation of flow through clear selected sand neglects absolutely any such feature as this change of texture where the freest flow takes place, and they are consequently entirely inapplicable to such conditions. As such conditions are freely found in the subsurface material at the Gatun dam site, as disclosed by the borings, it is obvious that any computations of the volume of seepage based upon neglect of the conditions found there aiding the flow must be wholly erroneous.

Much has been made in the minority report and elsewhere of the alleged necessity for tying up ships in order to pass each other when meeting in a sea-level canal of the dimensions recommended by the majority. It is to be remembered, as stated in my answer to one of Senator Morgan's questions, that the entire sea-level prism, as recommended, is a continuous passing place for ships. That part of the prism which has a bottom width of 150 feet is everywhere wider than the passing places in the Suez Canal, which have a bottom width of 147 feet 6 inches. In the 8 miles through the Culebra Cut the bottom width is 200 feet, with sides practically vertical, affording a much increased width of channel for passing purposes. Under these conditions few, if any, ships short of 550 feet in length and 55 to 60 feet beam would have to be tied up to pass each other anywhere in the canal. Ships nearly or quite up to those dimensions would pass each

other by slowing their speed and still smaller ships at their regular speed.

As the great bulk of canal traffic will be carried in vessels of less tonnage than those cited above for probably a considerable number of years, it will readily be seen that there can exist but little delay to any part of the canal traffic due to the tying up of the largest ships. Any time of passage of a ship through the sea-level canal, therefore, computed on the assumption that ships must always or generally be tied up whenever they meet and pass, as is done in the minority report, will give results entirely erroneous. As a matter of fact, as is demonstrated by traffic upon existing maritime canals in Europe, such as the Manchester and the Suez, the majority of vessels seeking the canal, i. e., except those of the largest dimensions, may pass each other, either at speed or by slowing up, but without tying up at meeting places or anywhere else.

It has been suggested in the minority report and in the testimony before the Senate committee, that in the lock plan its capacity might be increased or that facility of passage through it might be enhanced by fleet lockages, i. e., by taking two or more vessels of suitable size into one lock. While it is true that the matter of fleet lockage may be advantageously resorted to when a single lock only exists, as at the Soo, the time of lockage even there is greatly extended by the time required to properly place the two or more vessels brought into the lock at the same time with sufficient closeness without injuring each other, either when brought in or during the emptying or filling of locks.

When, on the other hand, there is a series of locks of either two or three in flight, the operation of moving a number of ships from one lock into the next one below or above must be made with extreme caution and very slowly, in consequence of the increased danger of injuring both ships and gates. No reliable computations can be made as to the greatly extended time required to pass the triple locks in flight at Gatun or the double locks in flight at Sosa Hill in case it should be considered prudent to attempt fleet lockages, as it would depend upon the number and size of ships admitted into a lock. The requisite time, however, would be extended much more than in proportion to the number of ships being locked, as would also the danger with which both vessels and structure would be threatened. Indeed, it would become a grave question whether this system of lockage could be permitted for any vessels whatever in such a flight of locks, except possibly for those of the smallest tonnage.

In connection with my testimony concerning the advisability of shutting off underground seepage through porous strata under an earth dam, I would like to mention the fact that the Charles River dam now being built at Boston is an earth dam. The maximum unbalanced head of water which it will have to retain is that due to the tidal range only in Boston Harbor. The plans for that structure, which I have before me as I write, show that a line of close sheet piling, called a shut-off dam, is driven along that part of it resting on substrata of sand and gravel, so as to preclude any possibility of seepage under the dam itself. Mr. F. P. Stearns, a member of the minority of the Consulting Board, is the consulting engineer for this construction.

The general principle recognized in placing this sheet piling sub-surface cut-off in the Charles River dam is that which almost or quite

universally governs the construction of great earth dams at the present time, by either placing them upon absolutely impervious material or carrying a curtain construction of some kind, such as a masonry core, a clay core, a line of close sheet piling, or some other device of that character, down through the permeable strata to bed rock or its equivalent, so that all subsurface seepage or underflow can be effectively prevented.

I trust this letter can be admitted as a part of my testimony.

Very respectfully,

WM. H. BURR.

HON. J. H. MILLARD,
*Chairman Committee on Interoceanic Canals,
United States Senate.*

Written statement of B. M. Harrod, esq.

The lake idea is logically connected with a lock canal. A lock canal is not built for the sake of the locks. They, per se, are objectionable, unless they provide compensating advantages in the lakes they form. The lock-canal advocates had in this case the opportunity of developing the lake idea, or an unobstructed navigation to the greatest extent, so as to present for 29 out of the 41 miles between the shore lines of the Isthmus a channel, ideal in width and depth, practically equal to navigation in the open sea. On the other hand, the sea-level advocates have been forced by circumstances connected with time and money to reduce their channel throughout to the least possible dimensions—in fact, to dimensions which do not comply with the strict injunctions of the act of Congress.

The sea-level canal, as designed, will not “afford convenient passage for vessels of the largest tonnage and greatest draft now in use and such as may be reasonably anticipated.” The dimensions of the project will not allow vessels even now building to pass each other. Ships of average size can not pass each other without one stopping and tying up, but for this no spaces or “gares” are provided. Neither is there any widening of channel proposed at curves. These conveniences, or rather necessities, can be readily provided, but only with considerable increase in the estimates for both construction and operation. The demand for enlargement will be heard as soon as the inadequacy of the proposed dimensions is developed by operation.

It is proposed, during the construction of a sea-level canal, to conduct the Chagres and its eastern tributaries to the Caribbean Sea through diversion channels. These have been partially excavated by the French, but many million cubic yards of excavation and embankment are required for their completion. Until the Gamboa dam is completed they must have capacity for the flood discharge of the Chagres and its tributaries. After the canal is completed the Chagres will be regulated by the Gamboa dam, and all its tributaries, except the Cano and Gigante, will be turned into its prism. These two will be dammed and diverted in another direction. There will therefore be in the canal a current toward the Caribbean varying, according to the discharge stage of the rivers, estimated at from 1 to 2½ miles per hour.

Of the tributaries to be received into the prism of the canal there are 22 of considerable size. Two are known to have a flood discharge of over 3,000 cubic feet per second; eight more have discharges of over 1,000 cubic feet per second. Their flood discharges between Gamboa and Bohio may aggregate 30,000 second-feet. They descend into the canal from heights varying from 13 to 160 feet above sea level. The sea-level plan proposes to overcome this difference of level by masonry-stepped aprons, metallic pipes, or by sloping and lowering the beds of the influent streams, although no designs are presented. Professor Burr in his testimony describes basins at the mouths of these streams, to strain out the sediment and débris, allowing only the water to enter the canal, but that is a personal suggestion and does not appear in the plan. This would certainly add materially to the estimate, and it is doubtful whether it would not be more costly to clean out the several basins, which would rapidly fill up, than to dredge the deposit from the canal itself.

I believe that the discharge of 3,000 cubic feet per second into the canal prism of 8,000 feet cross section would cause cross currents which would prove an absolute obstruction to navigation as long as they prevailed. No ship could hold a direct course under such conditions. She would be driven against the opposite bank. Even lesser discharges would prove proportionately obstructive to navigation.

I believe that the injection of 3,000 cubic feet per second into a canal prism of only 8,000 or 10,000 square feet of sectional area would cause deposit on one side and would abrade the opposite bank unless it were in rock, and that these effects, in combination with a current varying from 1 to 2½ miles per hour would give to those parts of the projected sea-level canal through earthen banks the characteristics of an alluvial stream which would ultimately establish meanders or sinuosities that would seriously impair the navigability of the canal for all larger ships, unless these banks were artificially protected, and the bars constantly dredged.

It is proposed in the sea-level plan to divert the Cano, Gigante, and Gigantito from the canal route by four dams and a spillway. These are all in a region of which little is known by survey. The largest of these dams holds a head of water about 70 feet above sea level, only a few feet less than the Gatun dam, and is about 3,000 feet long. No intimation is given of the method of construction, whether of earth, masonry, or a combination of the two.

The estimate for completing 21 miles of temporary diversion and of several miles of permanent diversion, aggregating many million yards of excavation; for controlling the descent of twenty or more tributaries, by masonry structures, into the canal, and for the building of four dams and a spillway, for which no plan is proposed, in a region where no investigation of foundations has been made, is three and one-half millions plus 20 per cent, which I believe will prove entirely inadequate.

I prefer the Gatun to the Bohio location for a dam because the foundation is more impervious; because the site at Gatun admits of three locks of the required size, while that at Bohio will not hold two of the same length; because it is doubtful if the supply of water at Bohio is sufficient with the larger locks for a traffic of more than 10,000,000 tons, while at Gatun it is sufficient for 40,000,000 tons.

and because the Gatun location affords 10 miles more of absolutely unobstructed navigation.

I have confidence in the absolute stability and sufficient impermeability of the Gatun dam as designed. The experiments made and recited by Mr. Stearns and Mr. Noble give a scientific basis to such an opinion. It is not an engineering guess, in the present state of knowledge, to claim that percolation may be reduced to almost any extent by the increase of resistance through additional material and by the reduction of the hydraulic gradient.

My experience with the levees of the Mississippi River, with which I was connected for twenty-six years as engineer for the State of Louisiana, and afterwards as a member of the Mississippi River Commission, confirms me in this view. These structures deal with the same problems of the stability of the embankment, and seepage through the foundations as does the Gatun dam. There are levees there holding heads of water up to 40 feet, with bases of only about eight or ten times the pressure height, and back slopes of one on five or six. They are proved safe by experience. The Gatun dam, as designed, has a base thirty-one times the pressure height and a back slope of one on twenty-five. In the great Mississippi River flood of 1882, when the levee system was in its worst state, entirely inadequate in both grade and section, there were in a certain district over 140 breaks, of which every one but two was caused by the water overtopping the levee crest, and the remaining two by unknown causes, probably burrowing animals. Neither of these causes can affect the Gatun dam with its height of 50 feet above the lake and its thickness of 374 feet at the water line.

B. M. HARROD.

Statement submitted by Mr. Shonts.

ISTHMIAN CANAL AFFAIRS,
OFFICE OF ADMINISTRATION,
Washington, D. C., March 26, 1906.

SIR: I have the honor to transmit herewith for the information of the committee, and for such use as you may desire to make of the same, a statement of receipts, expenditures, and statistics of operations of hotels and mess kitchens on the Isthmus of Panama to December 31, 1905.

The statement shows each hotel separately, and the mess kitchens under two groups—those in the La Boca district and those in the Culebra district. The receipts for meals and care of rooms are separately given, and the expenditures for the meal service and for care of rooms are separately shown.

The direct charge for care of rooms was discontinued on October 15, 1905, since which date the care of rooms is included in the cost of meals.

Very respectfully,

T. P. SHONTS,
Chairman.

Hon. J. H. MILLARD,
*Chairman Committee on Interoceanic Canals,
United States Senate.*

ISTHMIAN CANAL COMMISSION, OFFICE OF GENERAL AUDITOR

Exhibit of receipts, expenditures, and statistics of operations of hotels and mess kitchens on the Isthmus of Panama to December 31, 1905.

	Hotels.						Mess kitchens.			Total.
	Corozal, opened Aug. 15.	Culebra, opened Sept. 1.	Empire, opened Sept. 15.	Paraiso, opened Oct. 15.	Gorgona, opened Oct. 15.	Pedro Miguel, opened Oct. 15.	La Boca, opened Nov. 1.	Total.	Culebra district.		Total.
Period to Oct. 31, 1905.										
Receipts:										
Meals.....	\$3,864.49	\$6,807.10	\$954.30	\$161.75	\$327.85	\$254.80		\$12,370.29	\$18,341.54	\$32,592.77
Care rooms.....	385.00	245.20						580.20		580.20
Total.....	4,199.49	7,052.30	954.30	161.75	327.85	254.80		12,950.49	18,341.54	20,222.48
Expenses of meals:										
Supplies and services.....	8,185.97	9,686.62	2,133.68	450.47	611.71	491.53		21,620.03	13,569.30	16,286.04
Equipment.....	1,629.51	1,923.12	1,297.44	482.50	471.31	55.06	279.46	6,138.39	217.67	368.94
Total.....	9,815.48	11,609.74	3,491.12	932.97	1,083.02	546.64	279.46	27,758.42	13,720.57	16,654.98
Cost of rooms:										
Expenses.....	392.94	167.38						560.32		560.32
Depreciation of building and equipment.....	773.93	415.54						1,189.47		1,189.47
Total expenses.....	10,982.35	12,192.66	3,491.12	932.97	1,083.02	546.64	279.46	29,508.21	13,720.57	16,654.98
Excess of receipts over expenditures.....	6,782.86	5,140.36	2,536.82	771.22	755.17	291.84	279.45	16,557.72	4,620.97	3,567.50
Excess of expenditures over receipts.....	13,675	25,077	8,722	515	799	964		44,752	183,415	202,224
Number of meals furnished.....										
Revenue per meal:										
On basis—	Crtd.	Crtd.	Crtd.	Crtd.	Crtd.	Crtd.	Crtd.	Crtd.	Crtd.	Crtd.
Meals only.....	28.26	27.14	25.64	31.41	41.03	25.43		27.64	10.00	10.00
Meals and care rooms.....	30.71	28.12						28.94		13.43
Cost per meal:										
On basis:										
Supplies and service.....	59.86	38.63	58.94	87.47	76.56	50.99		48.31	14.44	8.05
All expenses except care rooms.....	77.44	47.95	98.80	131.16	135.55	56.60		62.02	15.60	8.24
Total expenses, including care rooms.....	80.31	48.62	93.80	131.16	135.55	56.60		65.94	15.60	18.69

INVESTIGATION OF PANAMA CANAL MATTERS.

2513

Period Nov. 1 to Dec. 31, 1905.

Period Nov. 1 to Dec. 31, 1905.												
Receipts:												
Meals.....	3,589.65	6,231.60	2,844.65	1,240.60	1,369.26	1,722.05	1,306.80	18,304.60	1,582.25	4,357.14	5,889.39	24,198.99
Care rooms.....												
Total.....	3,589.65	6,231.60	2,844.65	1,240.60	1,369.26	1,722.05	1,306.80	18,304.60	1,582.25	4,357.14	5,889.39	24,198.99
Expenses of meals: Supplies and services.....												
Care of rooms:	4,528.75	8,846.65	3,271.45	1,463.53	2,045.94	1,885.61	1,821.78	23,903.11	1,107.80	4,769.74	5,867.54	29,770.65
Expenses.....	434.19	377.70						811.88				811.88
Depreciation of building and equipment.....	717.41	692.51						1,409.92				1,409.92
Total expense.....	5,680.34	9,956.86	3,271.45	1,463.53	2,045.94	1,885.61	1,821.78	26,124.91	1,107.80	4,769.74	5,867.54	31,992.45
Excess of receipts over expenditures:												
Excess of expenditures over receipts.....	2,090.69	3,725.26	426.80	222.93	676.09	163.56	514.98	7,820.31	424.45	402.60	21.85	7,798.46
Number of meals furnished.....	12,365	21,065	9,624	4,136	4,815	5,742	4,357	62,124	15,322	43,671	58,983	121,017
Revenue per meal:												
On basis—												
Meals only.....	29.03	29.55	29.56	29.99	28.44	29.99	29.99	29.46	10.00	10.00	10.00	19.99
Meals and care rooms.....	29.03	29.55	29.56	29.99	28.44	29.99	29.99	29.46				
Cost per meal:												
On basis—												
Supplies and service.....	36.63	42.15	33.99	35.39	42.48	32.84	41.81	38.48	7.23	10.92	9.96	24.60
Supplies except care rooms.....	36.63	42.15	33.99	35.39	42.48	32.84	41.81	38.48	7.23	10.92	9.96	24.60
All expenses except care rooms.....	45.91	47.22	33.99	35.39	42.48	32.84	41.81	42.05	7.23	10.92	9.96	26.44
Total expenses, including care rooms.....												
Entire period to December 31, 1906.												
Receipts:												
Meals.....	7,454.14	13,038.70	3,798.95	1,402.35	1,697.10	1,976.85	1,306.80	30,674.89	8,413.19	22,698.68	26,111.87	56,786.76
Care rooms.....	335.00	245.20						580.20				580.20
Total.....	7,789.14	13,283.90	3,798.95	1,402.35	1,697.10	1,976.85	1,306.80	31,255.09	8,413.19	22,698.68	26,111.87	57,366.96
Expenses of meals:												
Supplies and services.....	12,714.72	18,573.27	5,465.13	1,914.00	2,657.05	2,377.19	1,821.78	45,523.14	3,824.54	18,329.04	22,153.58	67,676.72
Equipment.....	1,629.51	1,293.12	1,297.41	492.50	471.31	55.06	279.45	6,138.39	217.67	151.27	368.94	6,507.35
Total.....	14,344.23	20,496.39	6,762.57	2,396.50	3,128.36	2,432.25	2,101.23	51,661.53	4,042.21	18,480.31	22,522.52	74,184.05
Care of rooms:												
Expenses.....	827.12	545.08						1,372.20				1,372.20
Depreciation of building and equipment.....	1,491.94	1,108.05						2,569.39				2,569.39
Total expense.....	16,662.69	22,149.62	6,762.57	2,396.50	3,128.36	2,432.25	2,101.23	55,633.12	4,042.21	18,480.31	22,522.52	78,155.64

ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Wednesday, April 18, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Hopkins, Knox, Ankeny, Morgan, and Taliaferro.

Present, also: Maj. Gen. George W. Davis, U. S. Army, retired.

STATEMENT OF HON. WILLIAM H. TAFT, SECRETARY OF WAR.

The CHAIRMAN. Mr. Secretary, you were before the committee when we started this investigation, so that the questions that were asked you then to start with will not be again asked you now, but we will let you proceed with your statement.

Senator MORGAN. It has been understood by this committee for some time, and was so announced here, that Secretary Taft wanted to give his testimony at the conclusion of the examination of the other witnesses. I have shaped my course on this committee with respect to that very matter, thinking that it was very essential indeed that the Secretary should have the opportunity of passing his judgment, or his opinion, and giving us advice upon the whole of the testimony. That arrangement was not perfected, because, while the chairman called the witnesses here in regard to the railroad transactions, there has been some disappointment about their coming.

I wish to say that I do not believe that Secretary Taft knows, or that anybody knows, except those officers, all the facts that are necessary to be known in order to give us complete advice and judgment upon one great question in this case, and that is, What shall be done with the railroad company and the railroad property in the further management and conduct of the operations of this canal? I think that is one of the most important questions before us. Now, I suggest to Secretary Taft that, after he has proceeded with his statement to-day, or at least before he makes a final conclusion of his statement, we will bring Mr. Drake and the officers of the railroad company here and examine them with the books; I want to see those books; and that he will conclude his testimony after they have been here.

Secretary TAFT. I am at the disposition of the committee, gentlemen. I have, at considerable effort, read all the evidence that has been before the committee except the expert evidence—I mean, as to the type of the canal; and I have prepared a statement on the issues

Government in the spring of 1905; the question of the continuance of the steamship line; the question of rates; the congestion of traffic, and the Pacific Mail.

Eighth. The relations of William Nelson Cromwell to the Government's construction of the canal and the assistance which he has rendered.

Ninth. The circumstances leading to the severance of Mr. Wallace from the canal enterprise.

Tenth. The Markel contract.

Eleventh. The revocable license to the Union Oil Company for the construction of a pipe line from Panama to Colon.

Twelfth. The question of labor.

Thirteenth. Shall the canal be built by contract?

CHRONOLOGY.

With the permission of the committee I shall take the foregoing subjects up in their order, but before doing so it would be of assistance, I think, to give a short chronology of the events which are met in the consideration of the subjects above outlined for consideration.

June 28, 1902.—The Spooner Act, providing for the construction of the canal, was approved. Appended hereto for convenience, and marked "Exhibit I."

February 26, 1904.—Ratifications of the Hay-Varilla treaty were exchanged at Washington and the treaty took effect. Appended hereto and marked "Exhibit 2."

March 3, 1904.—The President appointed and the Senate confirmed the seven members of the Isthmian Canal Commission under the Spooner Act, with Admiral Walker as chairman. The Commission immediately organized.

April 28, 1904.—Congress by law directed the President to take possession of the zone of land, the control of which was ceded, under the Hay-Varilla treaty, to the United States, and directed that until the expiration of the Fifty-eighth Congress, i. e., March 4, 1905, the government of the Zone and the exercise of the powers under the Hay-Varilla treaty should be vested in the persons and exercised in the manner which the President should direct.

April 28, 1904.—The Fifty-eighth Congress adjourned its first session.

May 4, 1904.—The tangible property of the French Panama Canal Company on the Isthmus was transferred to the United States and possession given.

May 7, 1904.—The French Panama Canal Company assigned to Messrs. Day and Russell, agents of the United States in Paris, 68,887 shares of the stock of the Panama Railroad Company out of a total of 70,000 shares.

May 9, 1904.—The President, exercising the powers conferred upon him by the act of April 28, 1904, directed that the Isthmian Canal Commission should constitute the legislature of the Zone, and Governor Davis should be its executive, and that all of the powers exercised by the Commission under either the Spooner Act or the act for the government of the Zone should be exercised under the supervision and direction of the Secretary of War.

May 17, 1904.—Governor Davis arrived on the Isthmus and began his duties as governor, and for a time took general charge of the engineering work and the canal properties.

- May 18, 1904.*—Messrs. Day and Russell assigned the 68,888 shares of the railroad stock to the Secretary of War.
- June 14, 1904.*—John F. Wallace was appointed chief engineer, the appointment taking effect on June 1. He arrived on the Isthmus the 29th of June, and entered on his duties the 1st of July.
- June 20, 1904.*—The currency agreement between the Isthmian Canal Commission, represented by the chairman, and the Secretary of War, and the fiscal commissioners of the Republic of Panama, was made.
- June 22, 1904.*—General Davis, as governor, concluded with the Panama authorities a provisional agreement delimiting the Zone and determining the boundaries of Colon and Panama carved out of the Zone by the Hay-Varilla treaty. The towns of Colon and Panama until then had never had defined boundaries.
- June 24, 1904.*—An Executive order was issued putting into force on the Isthmus the Dingley tariff act, the effect of which was to make the Zone for tariff purposes a part of the United States and to exclude it from the Republic of Panama by a tariff wall.
- July 14, 1904.*—Commissioners Walker, Burr, and Grunsky were made directors of the Panama Railroad Company; Commissioner Parsons was made a director September 15, and Commissioners Davis, Harrod, and Hecker were made directors on October 27.
- August 3, 1904.*—The Commission reached the Isthmus and held daily sessions until September 7, when it returned to the United States. During this period it considered and adopted a great many important laws.
- September 14, 1904.*—Chief Engineer Wallace left the Isthmus for the United States, returning to Isthmus November 16.
- November 17, 1904.*—The Secretary of War left for Panama, arriving on the Isthmus November 27, and returning thence December 7, arrived in Washington December 14.
- December 3, 1904.*—The Executive order to establish a modus vivendi under the Spooner Act and the Hay-Varilla treaty with the authorities of Panama was issued. Subsequent slight modifications were made in December and January following, including a revocation of the order of June 24 (Dingley Act order).
- March 4, 1905.*—The Fifty-eighth Congress expired, and the legislative power of the Commission over the Zone, by the terms of the act of April 28, 1904, ceased.

That should be, strictly speaking, the power of the President to give legislative power.

Senator KNOX. Read that again, will you please?

Secretary TAFT (reading): "March 4, 1905.—The Fifty-eighth Congress expired, and the legislative power of the Commission over the Zone, by the terms of the act of April 28, 1904, ceased."

The act of April 28, 1904, provided, as the Louisiana act originally did, in 1903, that the district should be governed by the President, or by persons designated by the President, and the manner in which he should designate them.

Senator KNOX. How has it been governed since?

Secretary TAFT. I am coming to that.

Senator KNOX. Very well. Go ahead.

Secretary TAFT. March 29, 1905.—The resignations of the old Commission were requested and accepted.

- March 29, 1905.*—Mr. Wallace left the Isthmus, summoned to Washington to take part in the reorganization of the new Commission and to confer.
- April 1, 1905.*—The new Commission was appointed and an order issued defining the organization.
- April 15, 1905.*—The annual meeting of the stockholders of the Panama Railroad Company was held and the Government first elected the full directory and a new set of officers, with Mr. Shonts as president and Mr. Wallace as vice-president and general manager.
- May 6, 1905.*—General Davis was ordered home from the Isthmus, ill.
- May 16, 1905.*—Mr. Wallace and Governor Magoon, under the new organization, sailed for the Isthmus; arrived on the Isthmus May 24.
- June 5, 1905.*—Mr. Wallace applied for and was granted leave to return for a conference as to his relations as chief engineer of Commission.
- June 22, 1905.*—Mr. Wallace arrived at New York.
- June 25, 1905.*—Mr. Wallace and the Secretary of War had an interview at the Manhattan Hotel, in which Mr. Wallace's resignation was requested.
- June 29, 1905.*—The account of the interview between Mr. Wallace and the Secretary of War was published.
- June 30, 1905.*—Mr. Stevens was appointed chief engineer of the canal.
- June 30, 1905.*—The Secretary of War left for the Philippines.
- July 26, 1905.*—Mr. Shonts, the chairman of the Commission, and Mr. Stevens, the chief engineer, reached the Isthmus.
- September 1, 1905.*—The Consulting Board of Engineers met and continued in sessions until December.
- October 2, 1905.*—The Secretary of War reached Washington from the Philippines.
- October 27, 1905.*—The Secretary of War left Washington for Panama, arriving at Colon November 2, and returning thence November 7, reached Washington November 15.
- February 19, 1906.*—The reports of the consulting engineers and of the Canal Commission on the type of the canal were submitted to Congress by the President.

THE GOVERNMENT OF THE ZONE, ITS JUDICIAL SYSTEM, AND WHAT IS NEEDED IN THE WAY OF ADDITIONAL LEGISLATION BY CONGRESS.

Under the painstaking and efficient administration of General Davis, together with the very satisfactory laws which were enacted by the Walker Commission, with the assistance and on the recommendation of their general counsel, Judge Magoon, the government of the Zone has been in every way satisfactory. Although the population has grown from two or three thousand people to 30,000, the public order maintained has been excellent, taxes have been collected honestly and honestly expended, schools have been established and are being established as rapidly as conditions permit.

Under the order of the President of May 9, 1904, power was given to exclude undesirable characters coming into the Zone from its territory, and this has been exercised, in cases of extradition of fugitives

from justice from the Republic, charged with misdemeanor, in lieu of a provision in the treaty of extradition covering misdemeanors.

The judicial system consists of a supreme court of three judges and three courts of first instance in the three judicial districts into which the Zone is divided. Each member of the supreme court sits as a judge in a court of first instance, and appeals are taken from his decrees to the supreme court in back. General Davis was opposed to the appointment of more than one judge on the ground that the business to be done was not enough to justify the paying of three judges. I concur with him in the view that the business now is not sufficient to occupy the three judges as they ought to be occupied, but it seems necessary to have an appellate tribunal and not to submit the important civil and criminal cases which arise to the decision of one judge, especially when in the courts of first instance there can be no intervention of a jury.

Objection has been made that under this system a citizen of the United States charged with crime in the Zone would be tried by a court sitting under the authority of the United States for his life or liberty and convicted without a jury. I submit that the power to do this has been upheld by the supreme court in the Philippines in a case of a citizen of the United States there convicted of a felony by the sentence of the court sitting without a jury. The Canal Zone is certainly no more a part of the United States proper than are the Philippines. It is impossible to distinguish the two cases. It would be utterly impracticable to have a jury trial in the Canal Zone. The people are not used to such a method of trial, and the establishment of the system would make it a farce. There would be few, if any, Americans resident in the Zone to make up a jury, except Government employees, and the natives are entirely unfitted to fill a panel. An American citizen who goes to the Zone must know that if he is charged with an offense he can not have a jury trial.

With deference to the suggestion which has been made here, I venture to point out that, were the Zone to be put under a military government, or to be constituted a military reservation, the only method of trial would be by court-martial, which is not supposed to be any less summary than the trial before civil judges. The constitution of the court is, I think, fortunate. Señor F. Mutis Duran is a citizen of the Republic of Panama, one of the leading lawyers of the Republic, who speaks English and is an authority on civil law. Objection is made to him that he is not a citizen of the United States. There is no law which requires that he should be, and in a jurisdiction of such anomalous character as that which the United States exercises in the midst of another people, in the belly of another country, so to speak, a jurisdiction in which many citizens of the Republic of Panama will be greatly interested, it seems just and fair that upon a court of three, one Panamanian should be appointed. Of the other two judges, Judge Gudger was consul-general in Panama for a number of years, and speaks English and Spanish and is quite familiar with the customs and laws of the Isthmus. The third judge, Judge Collins, was for two terms a judge of the superior court of Chicago and resigned to go into practice. The court is an excellent one.

The failure of Congress to continue the operation of the Act of April 28, 1904, deprived the President of the power to appoint a legislature for the Zone, but the Government went right on. On the

expiration of the Fifty-eighth Congress, I telegraphed General Davis as follows:

WASHINGTON, *March 6, 1905.*

DAVIS, *Panama:*

The government of the Canal Zone will continue to be administered pursuant to the laws of the United States in force in that territory, the Executive orders heretofore issued and the laws of the Canal Zone enacted by the Isthmian Canal Commission during the period the Commission was authorized by act of Congress approved April 28, 1904, to exercise the powers of legislation. The government of the Canal Zone was established, the powers of the several branches defined, and official duties distributed by legitimate exercise of lawful authority duly conferred by Congress. It is therefore a government *de jure* and *defacto*.

It seems to me, gentlemen, that there is no reason to be found in the operation of the present government of the Zone to justify the adoption of a different system. It would be quite sufficient if the act of April 28, 1904, were reenacted so as to give an opportunity for legislation and if there were added to the act two provisions which Congress alone can supply. The first is that of appeal in a limited class of cases from the supreme court of the Zone to the Supreme Court of the United States, and the other is that permission should be given to the President to direct that suits may be brought by the United States to test the validity of land titles claimed by it, and that by permission of the President suits may be brought by others claiming an interest in land against the United States to determine title. By this short act I think that Congress will furnish all the governmental power to the President that may be needed to govern the Zone properly. I deprecate the enactment of a law, elaborate in its provisions, which would prove to be inelastic and quite unadapted to the government of so small a district as that of the Zone.

THE HAY-VARILLA TREATY AND THE POLITICAL RELATIONS. BETWEEN
THE UNITED STATES AND THE REPUBLIC OF PANAMA, AND THE NECES-
SITY AND REASONS FOR THE ISSUING OF THE EXECUTIVE ORDER OF
DECEMBER 3, WITH ITS MODIFICATIONS, AS A MODUS VIVENDI.

It is of the greatest advantage to the United States Government in the pursuit of its object on the Isthmus to have the good will and cooperation of the people and Government of Panama. By the logic of the situation we find ourselves and our work in the midst of these people, and it would certainly much increase the great burdens we have, at all events, if we have to encounter the hostility of the people of the Isthmus and the passive resistance or lack of sympathy of the Government.

I do not mean for a moment to indicate that the United States can not take care of itself and suppress by force all obstruction and interferences with its work, but I think it must be conceded that it is greatly better that we live on the most amicable terms with the people of the Isthmus, provided we do not yield to them any rights necessary to us in carrying out our great enterprise.

The people of the Isthmus are vitally interested in the question of how far they may be permitted to trade with the people whom we introduce into the Zone for the purpose of building the canal. They are vitally interested in the rates which we charge upon the Panama Railroad Company and the accommodations which we furnish. They are vitally interested in the order which we preserve in the Zone. They

are not so vitally interested in the precautions which we take against yellow fever, for the reason that they are generally immune from that disease; and whether they are vitally interested in sanitary measures taken against other diseases or not, most of the people are quite lacking in sympathy with rigid rules of sanitation which it is absolutely necessary for the Government of the United States to maintain and enforce, not only in the Zone itself, but in the contiguous territory, and especially in Colon and Panama. It is of importance, therefore, that we should obtain from the Panamanian Government not only the right to prescribe health ordinances which must be enforced in Panama and Colon, and other important towns which may be infected, but also that we should be given an opportunity to supervise the enforcement of these ordinances, because in Spanish-speaking countries it is not the form of the law or its declarations which are defective, but it is its administration. As I shall show a little further on, we have secured, by the good will of the Panamanian Government, an opportunity to take over from the beginning the enforcement of the health regulations in every town from which it is likely that danger or disease may come, though the treaty granted only the right to enforce health regulations after the Panamanians had failed.

There are many other matters constantly arising between the American representative on the Isthmus and the Panamanian authorities calling for adjustment. We are living in the same house and family with them, so to speak, and if we do not get on in a friendly way it will be uncomfortable for both.

The attitude of the Panama people and Government, after the ratification of the Hay-Varilla treaty, was exceedingly cordial, and this continued until an unfortunate mistake in our policy in respect to the customs law of the Zone. When General Davis, who went to the Isthmus on the 17th of May, came to deal with President Amador and his cabinet in respect to the many matters it was necessary to adjust, he found no difficulty whatever in their acquiescing in his suggestions.

Under the act of April 28, 1902, the President was directed to take possession of the Canal Zone. The Canal Zone was defined in the treaty to be 10 miles wide, extending to a distance of 5 miles on each side of the center line of the route of the canal to be constructed. The route of the canal was not fixed, except so far as it could be inferred by reference to the axis of the canal as laid out by the French. Again, the cities of Panama and Colon, and the harbors adjacent to such cities, were excluded from the grant, although they necessarily came within the zone thus described. The boundaries of these two cities never in their history were surveyed or fixed by law, nor was there any means of determining what were the harbors adjacent to these two cities. So indefinite was this description of the Zone that the execution of the Congressional direction to the President to take possession was impossible without friction and conflict with the Panama authorities, unless the Federal Executive, by himself or agent, made some adjustment or provisional agreement with them. Accordingly, General Davis did, on the 22d of June, make a provisional agreement of delimitation with the authorities of Panama, a copy of which is shown in the record, in the report of General Davis, on page 2300, et seq.

About this same time General Davis had recommended to the Commission the adoption on the Isthmus of a system of customs taxation, with rates approximating those of the Panamanian Government. 1

attach a copy of General Davis's dispatch (marked Exhibit 3) recommending a form of customs law, fixing the Dingley rates on certain articles, but fixing the Panamanian rates on others. The Commission presented the recommendation to me, and I, in turn, carried it to the President and the cabinet. For lack of information, and in the necessity for action, which General Davis emphasized, it was thought safer to extend the tariff laws of the United States as a whole to the Zone, and to make the Zone a part of the United States, in such a way that goods might be imported into it from any port in the United States free of duty, but that all goods and merchandise brought into the Zone from any foreign country, including the Republic of Panama, should pay the rates under the Dingley Act. General Davis was directed on June 24 to promulgate an order to this effect. The order contained two clauses looking to negotiation for the adjustment of tariff matters with the Panamanian authorities which should prevent friction. These two sections were not included in the order when it was published by General Davis, but were submitted to the President and cabinet of Panama for the purpose of bringing about the suitable negotiations.

I have no hesitation in saying that this order of June 24, 1904, putting into effect the Dingley tariff in the Zone, was a mistake, and until matters were subsequently adjusted in December following, it led to passive resistance by Panama to the making or carrying out of any agreement between the United States and the Panamanian authorities necessary in the progress of our work.

Doctor Amador was President of the Republic. He was the head of the Conservative party. Pablo Arosemena was vice-president and the head of the Liberal party. In the era of good feeling between all parties succeeding the revolution they were elected on the same ticket. The parties soon divided again when the patronage came to be distributed. The moment the people understood the effect of the introduction of the Dingley tariff between the Zone and the Republic, they resented the act as an indication of a desire on the part of the United States to grab the land of the Zone for its commercial purposes, and to exclude all Panamanians from the profitable business which they had expected to do with the people of the Zone, gathered there by the United States for the great work. The opposition party—the Liberal party—was quick to seize upon this as a ground for attacking the conservative administration on the theory that the Government had yielded to the United States and had sacrificed the interests of the Republic. The attitude of the Liberal party, of course, reacted upon the course of the conservative administration, and both parties were at once driven into hostility to any proposition of the United States looking to the operation of its governmental control over the Zone at those many points where it came in close contact with the jurisdiction of the Republic.

Another source of irritation, which, but for the primary source, would not have constituted any cause of bad feeling, was the introduction of the American postal system into the Zone and the use of domestic postage for letters between the Zone and the United States.

Senator MORGAN. Mr. Secretary, has that order, putting in force the Dingley tariff, ever been revoked by the President?

Secretary TAFT. Yes, sir. The Republic needed all its postal revenue to sustain its post-offices, but the adoption of the 2-cent rate for letters between the Zone and the United States was alleged to deprive

it of considerable revenue which it otherwise would have received from mail carried by it to the United States for the reason that its postage rate to the United States was 5 cents—that of the Universal Postal Union. Cristobal, the town at the northern end of the canal in the Zone, is really a part of Colon, while Ancon, the town at the Pacific end of the canal, is really a part of Panama. Everyone who wished to write a letter to the United States from Colon or Panama would step across the street and purchase United States stamps in Cristobal or Ancon and mail his letters for 2 cents apiece instead of paying 5 cents to the Panamanian Government.

Again, the opening of the ports of the United States at the termini of the canal, Cristobal and Ancon, promised to deprive the officials of Panama of revenue derived from vessels which might arrive in their port, and this was made the subject of fierce discussion. It was contended that for the United States to open independent ports next door to Colon and Panama was to destroy their importance and their business and greatly to diminish the dignity of the Republic and to affect her honor.

Letters from General Davis, from Judge Magoon, who was on the Isthmus, and from many other persons, gave the President and me much concern as to the conditions prevailing there. The correspondence between Minister Obaldia and Mr. Hay on this subject is shown in the record, in the report of General Davis, on pages 2334, 2352, and 2378. About this time Mr. William Nelson Cromwell, who was acting as counsel for the Panamanian minister, Mr. Obaldia, visited the President and confirmed the President's previously formed opinion that the situation on the Isthmus was not what it ought to be politically, and that something ought to be done to remove the conviction of the Panamanian people and government that the United States had gone into the Isthmus to build a rival state or colony rather than a canal. He referred Mr. Cromwell to me, and after a conversation I went to the President and suggested that a personal visit to the Isthmus might assist in smoothing out the trouble.

This was in October, and the President accordingly wrote me a letter, which will be found on page 2394 of the evidence before this committee. The letter directed me to visit the Isthmus with those persons whom I might wish to take with me, and expressed the most friendly feelings toward the people of Panama, and assured them that they were wrong in supposing that we intended to exercise any powers in the Zone and Isthmus except those we deemed necessary and convenient in constructing and maintaining the canal. The publication of the letter brought appreciative expressions of pleasure from the Panamanian minister at Washington and from the President of the Republic. A short time thereafter, at an interview between Mr. Obaldia and Mr. Hay, at which I was present, Mr. Hay renewed the expression of good will contained in the President's letter, but assured Mr. Obaldia that it was not intended thereby to concede that what we had done was in any way beyond our rights, as was clearly shown in Mr. Hay's letter of October 24, then just delivered.

Matters were then allowed to remain in the state in which they were, the Panamanian Government still declining to put in force the delimitation agreement, still protesting against the opening of the independent ports by the United States at the mouths of the canal, and still complaining of the postal arrangements. I ought to say that

so great had been the objection on the part of the Panamanians to the order of June 24 that General Davis did not begin its execution, although it was proclaimed, but postponed it until November 18. (See letter from General Davis to Admiral Walker, marked Exhibit 4.) At that time we were on our way to the Isthmus, and my understanding is that the order was never enforced, and no duties were ever collected under it.

In order to secure as much harmony as possible, and to give the Panamanians to understand that we wished as full a discussion as possible, with the concurrence of the President, I invited Minister Obaldia, Mr. Cromwell, and Mr. Farnham, in Mr. Cromwell's employ, to accompany me on the trip in order that they might assist at the conference in Panama on the Panamanian side. I also took with me Admiral Walker, chairman of the Commission, and Judge Magoon, its general counsel. I have here, and append as Exhibit No. 5, a stenographic report of the first conference held between President Amador and myself. By the request of Doctor Amador, the conferences were held in executive session. After the first meeting, the course was this: Mr. Cromwell, representing the Panamanian authorities, brought to me their complaints, and the negotiations were really conducted between Mr. Cromwell and me. Mr. Cromwell would return to consult President Amador and his cabinet and I would hold conferences with Admiral Walker, General Davis, Judge Magoon, and Mr. Wallace, the chief engineer, in whose house I was staying.

The Executive order or modus vivendi of December 3, 1904; the reasons for its necessity and adoption.

The negotiations involved many questions, but finally resulted in the order of December 3, which met the views of my colleagues with the exception, possibly, that General Davis was not inclined to yield as much as I did yield in respect to the construction of a road from the Zone into Panama, and was rather inclined to question the wisdom of adopting the Panamanian stamp rather than the stamp of the United States. The stenographic account of our first conference, already appended, shows quite clearly the attitude which I felt under the instructions of the President it was proper for me to take, namely, that I was there not to construe the treaty, not to assert the full powers of the United States, but to make a modus vivendi which should bind neither party to any permanent construction of the treaty. I did not intend to give up any right which the Government had, and might in the future wish to exercise, but I was quite willing to make any concessions not affecting those rights and not interfering with the power and convenience of the Government in constructing the canal, which would soothe the *amour propre* of the Panamanian people or of the Government, and which should convince them that we were not in the midst of their country for the purpose of excluding them from a prosperous business. Article III of the treaty provides as follows:

The Republic of Panama grants to the United States all the rights, power, and authority within the zone mentioned and described in Article II of this agreement and within the limits of all auxiliary lands and waters mentioned and described in said Article II which the United States would possess and exercise if it were the sovereign of the territory within which said lands and waters are located, to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, or authority.

It is peculiar in not conferring sovereignty directly upon the United States, but in giving to the United States the powers which it would have *if it were sovereign*. This gives rise to the obvious implication that a mere titular sovereignty is reserved in the Panamanian Government. Now, I agree that to the Anglo-Saxon mind a titular sovereignty is like what Governor Allen, of Ohio, once characterized as a "barren ideal-ity," but to the Spanish or Latin mind poetic and sentimental, enjoying the intellectual refinements, and dwelling much on names and forms it is by no means unimportant. Therefore, when the question of the form of stamp was to be determined, I had not the slightest hesitation in yielding to the view that we should adopt the system which for a time General Davis had himself adopted before he got United States stamps, of merely purchasing the Panamanian stamps and crossing them with the words "Canal Zone." I do not know that it is necessary for me to go through the various provisions of the order of December 3. I have discussed them at length in my letter transmitting the annual report of the Commission for 1904, and it is printed on pages 2392 to 2410 of this record.

The order, in effect, required that all importations into the Isthmus of merchandise, except those admitted free of duty for the Government of the United States or its employees under the treaty, should be entered at the Panamanian ports instead of at the United States ports in order that the Panamanians might collect duty on them and thus maintain their revenues. This, however, was on condition that they should reduce their duties from 15 per cent ad valorem to 10 per cent ad valorem. I deemed it of great importance that the Panama Republic should be self-supporting. Free trade between the Zone and the Republic was declared. The existence of the terminal ports of the canal as ports of the United States for clearing and entering by foreign vessels was recognized. Without waiting to determine whether the Government of Panama would fail in its duty to enforce the sanitary ordinances in Panama and Colon prescribed by the United States as was probable, the Republic turned over to the United States authorities immediate right to enforce the same. The postal rate from Panama to the United States and from the United States to Panama was made 2 cents, the stamp in the Zone being the Panamanian stamp crossed with the words "Canal Zone."

In order to induce the Panamanian Government thus to reduce the rate of postage, it was agreed that these stamps should be purchased at 40 per cent of their face value by the Zone Government from the Panamanian Government. The remainder, that is 60 per cent of the face value of the stamps, was retained by the Zone Government for the purpose of paying its own postal expenses. Another part of the order secured the carrying out of the currency agreement made between the Secretary of War and the fiscal commissioners of Panama in Washington, June 20, 1904. Detailed reference will be made to this agreement at another place.

The Panamanian merchants felt great alarm lest the United States might use the clause of the Hay-Varilla treaty which permits the United States to import free of duty into the Isthmus all machinery, equipment, material, and supplies needed by it or its employees in the construction of the canal to break up their normal business in native supplies in the Zone. After a conference with General Davis

and Mr. Wallace I became convinced that there was no present probability of a scarcity of food for the tropical laborers, save under exceptional circumstances, and that it would be much less burdensome to the Government to have this class of laborers furnish themselves with food from the local markets. As part of the arrangements made when I was on the Isthmus, therefore, on January 7th I issued an order to carry out Section XIII of the treaty. The order provides for the free importation of many classes of articles and merchandise, including everything which is necessary and convenient for the officers, employees, workmen, and laborers in the service and in the employ of the United States, and for their families. The order provided how and on what certificate these goods should be admitted, and classified what they should be, and contained the following clause:

This order contemplates the exclusion from the benefits of the commissaries established and maintained by the Commission of all employees and workmen who are natives of tropical countries wherein prevail climatic conditions similar to those prevailing on the Isthmus of Panama, and who therefore may be presumed to be able to secure the articles of food, clothing, household goods and furnishings, of the kind and character to which they are accustomed, from the merchants of Panama, Colon, and the towns of the Canal Zone, and whose ordinary needs may be supplied without recourse to the Government commissaries. Should it develop hereafter that said merchants charge prices in excess of legitimate profit, or practice other extortion, the United States, for the protection and assistance of all its employees, whether from the Tropical or Temperate Zone, will supply its commissaries with such staple articles as are required and desired by the inhabitants of tropical countries, and permit all its employees and workmen and those of its contractors to avail themselves of the benefits and privileges afforded by said Government commissaries.

The operation of this order has never given rise to any difficulty, except as you have heard from Mr. Shonts and Governor Magoon. At one time in the Zone, after a sudden influx of laborers, in June and July, 1905, the merchants of the Zone were apparently quite short of provisions, or else they attempted to make a corner upon them. The commissaries and boarding houses were then opened to the native laborers. This opening of the commissaries was not in violation of the order, but was in express compliance with its proviso. The commissaries and boarding houses for native laborers have been open ever since, under the auspices of the Commission or the Panama Railroad, but the native laborers do not patronize them. They prefer to supply themselves from the native merchants in the Zone, and the Panamanian merchants. This seems to show the wisdom of the distinction between the American employees and the native laborers in the matter of importation of food supplies.

Regarding the question of the order of December 3, I invite attention to section 12, which specifically provides that the making of the order, or a compliance with its conditions by the Panamanian authorities, could not operate as a restrictive or enlarging construction of the treaty, making the arrangement purely a *modus vivendi*. Attention has been called to the provisions of the order which enable the Panamanian residents, without obstruction by the Zone authorities, to vote at the elections held in the Panamanian Republic. It is not understood what objection there could be made to this provision. There is no requirement of law that the residents of the Zone should be citizens of the United States, or should part with their privileges as citizens of Panama, if they choose to exercise those privileges and the Republic of Panama sees fit to allow them to do so.

I omitted to say that before the order was signed I cabled the substance of it to Secretary Hay, to be submitted to the President, and by cable received approval of the same. I append my dispatch and that of Secretary Hay as Exhibit No. 6. When the order was made public on the Isthmus it was received with approval by both parties, and the arrangements made under it have proved, so far as I am advised, to be satisfactory.

THE CURRENCY AGREEMENT OF JUNE 20, 1904, AND THE BANKERS' AGREEMENT OF APRIL 9, 1905; THE NECESSITY FOR THEM; THEIR EFFECT, AND THE PROPER COURSE TO BE TAKEN WITH RESPECT TO THE FUTURE FINANCIAL OPERATIONS OF THE GOVERNMENT ON THE ISTHMUS.

In March, 1904, before the adjournment of Congress, Mr. Conant and Mr. Hanna, of the International Monetary Commission, came to see me in respect to the currency of Panama. The currency of Panama was then the Colombian silver. In the days of De Lesseps and the old Panama Canal Company there was great gambling in exchange on the Isthmus, and at times, although the exchange was only 5 per cent normally, it ran up to 75 and 80 per cent. A similar experience with the fluctuations in the Mexican dollar in the Philippines had produced great trouble for us in paying the civil servants of the Philippine government, and it seemed to me of the utmost importance that, if possible, we should secure a uniformity of monetary standard between the United States and the Republic of Panama.

The proposal to introduce into the Zone a different currency from that used in the Republic in Colon and Panama, which are the markets of the Zone, would result in great confusion and, as such differences in currency always do, would bring about loss to those least able to take care of themselves—the laboring class. For that reason I took up the matter with Mr. Conant, and my impression is that he submitted his proposition to some members of Congress. It was so late in the session that nothing could be done by Congress. He also conferred or corresponded with General Davis on this subject, and followed the proceedings of the Panama convention, which was then in session and engaged in considering a currency law. On the 7th of May Mr. Conant came to Washington and had an interview with the President on this subject. I was present. He submitted his views on the matter, and my recollection is that it was at that time that he advised me that the fiscal commissioners of Panama were in New York with authority to act. Perhaps it was earlier. At any rate, through him the fiscal commissioners came to Washington to visit me, and were accompanied by their counsel, Mr. Cromwell.

The conferences were held in my office between Admiral Walker and myself with Mr. Conant as our monetary adviser on the one side and Señor Arias and Señor Morales, the fiscal commissioners, with Mr. Cromwell, their counsel, on the other. I append the conversations, which were taken stenographically, leading up to the making of the agreement, together with the agreement, as Exhibit 7. This agreement was made the subject of a resolution introduced by Senator Bailey at the present session of Congress, and I appeared before the Finance Committee, to whom the resolution was referred,

to testify in regard to it. The resolution covered also the bankers' agreement of April 29, 1905, to which I shall subsequently allude and which has been discussed at considerable length before this committee.

There crept into the agreement, which took the form of a letter from me, a stipulation on behalf of the Commission as a legislative body that it would make the Panamanian currency legal tender in the Zone. This I am quite sure was done at the instance of Mr. Conant, as it is suggested in his memorandum and correspondence, already referred to. The Panamanian representatives did not insist upon this clause, and after the agreement had been signed, I carried in my mind the impression that that particular provision had been stricken out. I was wrong in this, but when I went before the Finance Committee, I freely admitted that the insertion of that particular clause was improper, and I did not assert the power on the part of the Commission to obligate itself to pass such a law, or, in fact, the authority to pass the law whether it had agreed to do so or not. As a matter of fact no such legislation was ever adopted, and Panama never requested it. The clause was ignored. After this disclaimer before the committee, I understood the result of the informal conference of the committee to indicate their unanimous opinion that the remainder of the currency agreement and the bankers' agreement were within the competency of the Commission.

The stipulations of the currency agreement of June 20, 1904, were conditioned on the enactment of a law which had been before the Panamanian convention and which, my impression is, Mr. Conant had something to do with framing. Whether this be true or not, it was one of which Mr. Conant fully approved. It provides (for it is still in force) a gold coin as a monetary standard which is exactly the same weight as our gold dollar. It also expressly makes the gold dollar of the United States and its multiples legal tender in the Republic of Panama. It provides for the coinage of a silver peso, which by law it makes equal in value to 50 cents of American money. This coin was to be the most valuable coin in actual use and the one generally in use. The weight and purity of the silver in this coin made it about equal in intrinsic value to our standard silver dollar, and less by 7 or 8 cents than its legal value.

Under the agreement the Panamanian Government was to coin three millions of silver pesos for issue on the Isthmus. This, it was thought, would take up all the Colombian silver, and in fact it did. That Government also agreed to issue three million pesos more at the request of the United States Secretary of War, should the operations of the Commission on the Isthmus require it. It further agreed to deposit in a New York bank 15 per cent in value of the first issue of three millions of pesos to maintain the parity of the coins with their legal value of 50 cents gold. It further agreed, in case the coinage of more pesos was required by the Secretary of War, to deposit as security to maintain the parity of those additional coins, the seigniorage or profit made by the Panamanian Government in their coinage and issue.

This was intended to secure upon the Isthmus a currency having the same monetary standard exactly as the currency of the United States and at the same time to give a currency with the chief coin in use of about the same size and value as that to which the natives were accustomed. Thus was avoided the necessity for the Commission of

keeping accounts in two different currencies, and was prevented the loss by fluctuation as between the intrinsic value of silver and gold. The agreement was accepted by the fiscal commissioners and was brought to the attention of the Panamanian authorities. The Panamanian convention, which had failed to adopt the law, by a tie vote, took up the matter again and enacted the law. I append this law as Exhibit 8. The law was not at once executed, however. This delay was one of the many which were incident to the Panamanian feeling of resentment at the Dingley Act order of June 24, to which I have already referred. As a result of the order of December 3 and its modifications, however, the President of Panama put into operation the currency law, and the new coins were minted at the Philadelphia mint and were put into circulation on February 12, 1905, on the Isthmus.

The Panamanian Government made the deposit required by the contract with the Bankers' Trust Company of New York, by an agreement of May 3, 1905. The Colombian silver was all purchased at a satisfactory premium and the new coinage easily substituted for the old. Previous to this time it had been necessary, in the operations of the Commission on the Isthmus, for General Davis to advertise for Colombian silver in exchange for United States currency. The following, from a report of the acting general auditor, shows the fluctuating prices at which General Davis was obliged to buy the Colombian silver for issue on the Isthmus:

Date of sale.	Amount sold, United States currency.	Amount received Colombian pesos for one dollar American.
May 28, 1904.....	\$15,000	2.17½
June 13, 1904.....	15,000	2.14½
July 5, 1904.....	20,000	2.10½
July 30, 1904.....	30,000	2.10½
Aug. 11, 1904.....	50,000	2.10½
Sept. 17, 1904.....	50,000	2.06½
Oct. 10, 1904.....	40,000	2.13½
Oct. 27, 1904.....	40,000	2.13½
Nov. 11, 1904.....	40,000	2.14½
Nov. 28, 1904.....	65,000	2.14½
Dec. 23, 1904.....	80,000	2.14½

(During the reading of the above table the following occurred.)

Senator KNOX. What do these figures mean—2 per cent and $\frac{1}{10}$, or what?

Secretary TAFT. Yes; 2 per cent.

Senator TALIAFERRO. Does it mean a premium on the silver?

Secretary TAFT. It means a premium on the silver, and it varied between the gold dollar and the silver dollar. It is what they express as exchange.

Senator KNOX. Yes.

Secretary TAFT. And of course as it is higher it is less expensive to the Government.

Senator KNOX. For \$1 in gold you get \$2.12 in silver?

Secretary TAFT. That is it.

At this time, in the spring of 1905, I received overtures from the International Banking Company, with which I had been familiar in the

Philippines. It had a branch in Manila, and is one of the depositories of Philippine funds in this country. It proposed to do the banking business of the Commission on the Isthmus, and asked to be made a fiscal agent of the Government by the Secretary of the Treasury at Panama. I was not inclined to yield to their proposal, for the reason that I doubted their ability to furnish all the silver money which we would need, to pay off the native laborers. I knew that there were on the Isthmus three or four business firms which did a general merchandising and commission business and, in connection with this, a considerable banking business. These were the firms to whom would go, in the course of their business, a great deal of the silver expended by the employees of the Commission; and unless I could secure the cooperation of substantially all the bankers on the Isthmus, I was afraid that it might be difficult for an American bank, just established, to secure the supply of silver needed by the Government. I knew that there is nothing which more demoralizes a body of ignorant laborers than a failure to pay wages on the dot, and that we must at all events be certain that the money would be there on the Isthmus for this purpose. As the Panama Railroad Company was interested equally with the Canal Commission, and as Mr. Cromwell, counsel for the railroad company, had a wide acquaintance with the Panamanian merchants of the Isthmus and the bankers, I sent for him and asked him whether he could not secure cooperation between all the bankers on the Isthmus, so that there would be no exclusion of any proper interest in an agreement to do the business of the Government.

The task was a difficult one. I talked with Mr. Brandon, one of the bankers, and with Mr. Hermann, another of the bankers; but after a time Mr. Cromwell succeeded in getting them together and agreeing upon the percentage of the Government business which each should receive. I indicated what I thought to be the proper form of agreement as between the Government and the bankers, and the agreement was sent to me for examination and correction. It was thought wise to make as parties to the agreement not only the Canal Commission and the Panama Railroad Company, but also the Republic of Panama, in order that the business to be done might be large enough to furnish a good motive for a union of the bankers in the agreement. The agreement was signed on the 29th of April, 1905. Without stating the agreement between the bankers themselves as to meeting the obligations on their part to be performed, in effect it provided:

First. That, upon ten days' notice, the Commission and the railroad company and the Panama Government, in exchange for drafts on New York, could obtain all the Panamanian silver they needed every fifteen days at the flat rate of 2 Panamanian silver pesos for each American dollar in the draft. In other words, the exchange of silver for the draft on New York was without expense to the Commission or the Panama Railroad Company.

Second. It provided that the Commission, the Railroad company, and the Panamanian Government could deposit United States currency with the bankers and obtain drafts on New York for it at one-half of 1 per cent. Of course this provision did not affect the Commission or the railroad company particularly, because it was quite unlikely that they would have any United States currency which they would desire to transmit to New York. The Panamanian Government might perhaps desire to use this clause, though even that was unlikely.

Third. It provided, in effect, that if the Commission, the railroad company, or the Panamanian Government desired to obtain from the bankers United States money in exchange for a draft on New York, they could do so at the rate of three-fourths of 1 per cent. I was informed that the expense, without insurance, of transmitting currency from New York to Panama was three-eighths of 1 per cent. What the insurance would be I do not know, but probably this rate would give the bankers some profit, which they certainly were entitled to for the trouble and annoyance of furnishing free the large amount of silver which they were likely to have to furnish to the Commission under the first provision of this agreement.

Fourth. The agreement provided, in order to save the American employees of the Commission who wished to send part of their pay to the United States, that the bankers should not charge them an exchange rate for money thus transmitted exceeding $1\frac{1}{2}$ per cent. This, of course, was not intended to prevent competition between the bankers with respect to the rate of exchange for employees, and, in fact, it did not do so, for I have been reliably advised that except at short intervals the exchange on New York was much lower and at times was given to the employees for nothing. This might readily be the case, in view of the fact that the banks were receiving so much exchange on New York through this agreement from the Isthmian Canal Commission and the railroad company.

The operation of the agreement has been in every way satisfactory, except that it has thrown a great burden of responsibility on the disbursing officer in drawing out about one-quarter of a million dollars' worth of silver every fifteen days and the maintaining of the custody of it in his own safe. More than that, the increasing operations of the Commission have made it more and more difficult for the banks to obtain the silver which the Government needs. In June, 1905, I found it necessary to exercise the privilege given me by the currency agreement of June 20, 1904, to request the issuance of 1,000,000 more pesos by the Panamanian Government, and this request was complied with. When I was on the Isthmus, in November, 1905, I was visited by a committee of bankers, who stated to me that the silver was getting scarce and requested that I exercise the privilege again of demanding another issue of 1,000,000 pesos, but I was not convinced that the necessity existed and I thought it wise to be conservative, so as not in any way to imperil the parity of the coins with their legal value.

Senator HOPKINS. In the hearings a question was raised as to whether the Government employees down there ought not to have exchange without any expense. Do you discuss that here?

Secretary TAFT. No, sir. They get the exchange now, as you will see when I get on, by postal orders.

Senator HOPKINS. Yes.

Senator MORGAN. By postal orders?

Secretary TAFT. Yes, sir.

Senator MORGAN. How long since?

Secretary TAFT. At the domestic rate.

Senator MORGAN. How long since?

Secretary TAFT. The order was issued the 1st of April. I had a cablegram several days ago asking me to transmit directions to the postal authorities here and complete the arrangements.

Senator MORGAN. So it has just now gone into effect?

Secretary TAFT. Yes, sir. Understand, Senator, I do not know that it has all been adjusted. I issued the order on the 1st of April.

Senator MORGAN. That is the first provision that has been made for the transmission of funds by postal order?

Secretary TAFT. Yes, sir.

Senator TALIAFERRO. Is the rate the same as the domestic rate charged in this country on postal orders?

Secretary TAFT. Yes, sir.

Senator TALIAFERRO. Do you discuss there, Mr. Secretary, at all the question of giving these employees Treasury drafts for what they may desire to send to the States?

Secretary TAFT. No, sir; but I do not see any objection to doing it, if you follow the course that I recommend.

Senator TALIAFERRO. Yes. You think it is a proper provision?

Secretary TAFT. I do. I think any encouragement to saving at home is a good one.

Senator HOPKINS. You reach that later on in your discussion?

Secretary TAFT. Yes, sir. I do not treat of that specifically, but if you follow the recommendation that I make there will be no difficulty in making such an arrangement.

The truth is, Governor Magoon told me that he thought that probably 75 per cent of all the money that had come north now from the employees had been furnished to them for nothing, because they have this enormous mass of exchange on New York that they get every month or every two weeks. This agreement was only intended to fix a maximum to prevent abuse. That was all.

The total cost under this agreement to the Government of the United States for the transfer of \$6,000,000, during the life of this monetary agreement, to the Isthmus and its exchange into silver has been \$16,350. To show this I append a statement by the acting general auditor, marked "Exhibit 9." This is at the rate of a little more than one-quarter of 1 per cent. It seems to me that the cheapness with which this has been done vindicates in every way the wisdom of the agreement when made.

In reaching that one-quarter of 1 per cent of course the rate was three-quarters of 1 per cent, but we paid nothing for the exchange from a draft on New York into silver money. That is a bank transaction, and ordinarily costs something. Therefore in getting at what the cost of the agreement was to the United States it is fair to take into consideration not only the percentage on what was charged in the agreement as percentage, but also the total transaction, which amounts to \$6,000,000, transmitting that \$6,000,000 from New York to Panama, its exchange into silver; and at that rate it is one-quarter of 1 per cent.

I have been advised, however, in a number of different ways, that the bankers on the Isthmus have not been satisfied with the profits which they have made with the operations under this agreement. They complain that the increase in the operations of the Government has produced a scarcity in silver which requires a longer preparation than ten days for them to accumulate the amount needed for the semi-monthly pay roll.

I should be willing to make an agreement with them advancing somewhat the rates of exchange and also request the coinage of the remaining 1,500,000 pesos, which it is my privilege to ask under the currency agreement with the Panama Government, were it not that I

deem this to be only a temporary remedy, and it seems to me that the time has arrived for a more permanent arrangement, so that we shall not be subjected at any time to the possibility of stringency on the Isthmus in our financial operations.

I am in receipt of a letter from Mr. Shonts, written while he was en route to the Isthmus and inclosing a report from Mr. Williams, the disbursing officer on the Isthmus, in which Mr. Williams makes certain recommendations. I append Mr. Shonts's letter and Mr. Williams's report as Exhibit 10. Mr. Williams shows an entirely natural impatience with some features of the present bankers' agreement because it throws a great burden of responsibility upon him. His estimate as to the cost of the agreement with the Government, should it continue, is, I think, an error, if I understand it; but what he says, especially in respect to future arrangements, is worthy of consideration.

On the 10th of this month I received from Mr. Shonts the following telegram:

SECRETARY OF WAR, *Washington*:

We are to-day drawing our last draft for funds under bankers' agreement expiring April 29. While this agreement has worked fairly satisfactorily there has been constantly increasing scarcity of Colombian silver latterly. The bankers have notified our disbursing officer that they required more than ten days' notice because of this scarcity. We have therefore been fearful each pay day that the bankers would be absolutely unable to furnish the money required for next pay day. This would mean disaster to us as we could not explain our failure to have funds for meeting payments to class of labor here.

In case another agreement is entered into with these bankers we should reserve the right to bring in any part or all of funds necessary from the United States in case bankers do not have the money in possession a reasonable length of time before each pay period. The present agreement provides no penalty, but penalty would be of no practical use in case of failure; therefore it is necessary for us to know that the money is actually here and available a sufficient time before pay period, so that in case money should not be available we should have time to bring in ourselves.

We regard present situation as extremely serious, and in case a fair agreement can not be made with these people, believe we should control arrangement, either through some reputable banking company or through subtreasury.

The most essential thing is maintenance of parity.

SHONTS.

I answered the above by the following dispatch:

SHONTS, *Panama*:

Your cable of April 10 received, also your letter of April 1 and Williams's reports. Present bankers' contract does not prevent our importing gold or United States currency, if we desire, but my difficulty in making effort to renew it is more serious. It is quite evident that bankers are not satisfied with profits they have made out of present contract and that we can not renew it on same terms. I should be willing to renew on somewhat better terms for them, and request under our arrangement from the Government of Panama the issue of another million pesos to relieve increasing scarcity of silver if it offered permanent remedy for conditions we must anticipate. This would be less expensive, probably, than any other course, but it would not be permanent. Silver would again become scarce as our operations grew, and more would soon be needed.

Another remedy commends itself. By our currency arrangement with Panama, it has made our American gold dollar the legal monetary standard in the Republic. The Panama peso, although largest coin now actually in use, is by law equivalent to 50 cents gold, our money. No objection, therefore, can exist to actual introduction American gold dollars into circulation. Williams's reports show impatience with bankers' agreement natural in disbursing officer upon whom present arrangement places so much responsibility. He seems to be in error as to cost under renewed agreement. But he does show that gold can be used now with native labor, and that time has arrived for following his suggestion of abolishing distinction between gold and silver rolls. We can import gold from United States. On the Isthmus we

can take in or obtain as much silver as is easily available without special bankers' agreement, and thus aid in maintaining parity. To secure reasonable rates of exchange for employees, we can sell postal money orders on United States at same as domestic rates here.

Senator MORGAN. Mr. Secretary, may I ask you there, where you speak of actual gold dollars, do you mean the coin that we used to mint here?

Secretary TAFT. It refers to the gold dollar and its multiples; so that what they do use on the Isthmus now, so Mr. Williams states in this report that I append, is the \$5 gold piece.

Senator MORGAN. You do not recommend that the Government shall return to the mintage of the gold dollar?

Secretary TAFT. Oh, no. All I recommend is that we send up here and get the \$5 gold pieces.

Senator MORGAN. Yes.

Secretary TAFT. Many of the laborers on the Isthmus are Jamaicans, and men from some other of the English colonies, and Mr. Williams reports that they take a \$5 gold piece, some of which have come out there, regarding it as a pound; so that he thinks there would be no difficulty in paying them off in that.

Senator MORGAN. Just one more question, not connected with your testimony particularly, that I want to ask you: Are your observations and recommendations to this committee an indication that you expect or wish this committee to take up this financial question, or that it shall go to the Committee on Finance, where I understand the Senate has referred it?

Secretary TAFT. Oh, I do not think you ought to—of course, it is not for me to say what committee the Senate ought to send its matters to.

Senator MORGAN. The Senate, as I understand, has referred this question to the Committee on Finance.

Secretary TAFT. Has it? I did not know that. I ought to say with respect to that that the Finance Committee interrogated me on a good many questions which they did not put into the record, for the reason that they did not wish to appear to be infringing on the jurisdiction of this committee. And when the question came up before them of whether the bankers' agreement was a good one or not, Senator Bailey said: "That is not a part of our investigation," from which I inferred that the only thing that they were looking into was the question whether I had usurped the treaty-making function of the President and the Senate; and therefore I did not understand from their statement that they were going to make any further investigation into the matter.

Senator MORGAN. Then it remains, in your judgment, for this committee to suggest or recommend whatever provision may be necessary?

Secretary TAFT. Yes, sir. With deference to the Senate, I should think it was very unwise to make two bites of this subject. I should think the whole subject should be before this committee.

Senator MORGAN. I merely did not know what the action was, or the limit of the action that has been taken, or the desire of the Administration. I want to follow the desire of the Administration about matters of this kind.

Secretary TAFT. We are presenting all canal matters before this committee, and I am quite sure that if you confer with the members of

the Finance Committee you will find that there is no disposition on their part to take up this question any further.

Senator MORGAN. I agree so thoroughly with your suggestion about establishing an American bank within the Zone that I wanted to know whether it was a matter that we ought seriously to consider or whether we should merely regard it incidentally.

Secretary TAFT. I think you ought to, Senator. [Continuing reading:]

This arrangement, while more costly to Government than present arrangement, will, I think, meet situation until Congress can give us authority necessary to secure establishment in the Canal Zone of American bank as Government depository, through which we can conduct financial transactions and in which we may safely allow disbursing officers to keep money needed.

There, Senator Hopkins, is what I had in mind. If you have an American bank down there they can pay any of the employees as they wish in their checks on New York. [Continuing reading:]

If you, after conference with Stevens, Magoon, and Williams, concur with these suggestions, issue immediate orders for shipment of necessary gold next payment. I have submitted your dispatch to President and Secretary of Treasury, and they approve of this answer. Let Magoon show this dispatch to President Amador before action.

TAFT.

I ought to say that President Amador had sent word through Governor Magoon, I think it was, to know whether we were going to renew the bankers' agreement, and as he was a party to that agreement I thought it was wise that there should be notice.

I have a reply to the above from Mr. Shonts, as follows:

SECRETARY OF WAR, *Washington.*

Referring to your cable of April 11. In the absence of any agreement with bankers, all agree that your suggestion we use American gold brought by us from the United States must be adopted. Am of opinion that we can use gold for not less than two-thirds amount required, the remainder to be Panama silver, which we will secure by selling Williams's drafts on subtreasury New York, and later by sale of post-office money orders as soon as system is inaugurated. This will undoubtedly secure required amount of silver. Determination will be communicated to President Amador before being put into effect. Williams has sufficient funds on hand for April pay rolls.

SHONTS.

I do not know that I need to elaborate what I stated in my telegram to Mr. Shonts. My information that the native laborers will receive the five-dollar gold pieces is based on the statement of Mr. Williams, the disbursing officer.

I recommend that Congress authorize the establishment of the branch of some American bank upon the Isthmus, subjecting it to an examination by one of the bank examiners under the Comptroller of the Currency, and that the President or the Secretary of War be authorized to direct the deposit of Government funds, both of the Commission and of the railroad company, in the bank, taking from the bank ample security, the President or the Secretary of War to fix the proper rate of exchange in the fiscal operations of the Commission and the railroad company. In this way we can relieve our disbursing officers of a great burden in the custody of funds, pay many of the salaries in checks on the bank, and in every way relieve ourselves from the cumbersome methods now imposed on us in making our payments.

AUTHORITY OF THE PRESIDENT, ACTING THROUGH THE COMMISSION OR OTHER AGENT, TO MAKE TEMPORARY ARRANGEMENTS WITH THE REPUBLIC OF PANAMA.

I think that I have sufficiently indicated the ground on which, by my advice, the President authorized the entering into and execution of the various revocable or temporary arrangements made with the authorities of the Republic of Panama as to the currency; as to the stipulations of the bankers' agreement; as to the delimitation of the boundaries of the Zone; as to the establishment of ports, the arrangement for customs, the terms for conducting the hospitals in and out of the Zone, and other matters.

The suggestion is that in the making of these arrangements the President or his agents usurped the treaty-making power, which, by the Constitution, is intrusted to the President and the Senate. As I have already said, I do not think that Senator Bailey, of the finance committee, or any of his colleagues regard such arrangements as violative of the Constitution. On the contrary, I gathered from the discussions in the finance committee, contained in the hearings of that committee as printed, that the committee was unanimously of the opinion that such arrangements could be lawfully made and executed by the Executive in pursuance of the duties imposed by statute and by treaty upon him. By the Spooner Act the President was authorized and directed to construct the canal across the Isthmus of Panama if certain conditions were fulfilled. By the treaty with Panama the governmental control over an undefined zone, and a zone in certain respects undefinable (except by further adjustment and agreement with the Panamanian authorities), was ceded by the Republic of Panama to the United States.

By the act of April 28, 1904, the President was directed to take possession of this undefined zone and to govern the same through his agents. It was impossible for him to comply with the directions of Congress under these circumstances unless he could effect such temporary arrangements as he has effected. He was enjoined through the Commission to send agents who were to organize a large force of engineers, employees, and laborers in a strip of country in the midst of a foreign people and in the middle of a foreign State; to exercise complete and exclusive jurisdiction in an undefined territory, and to exercise a limited jurisdiction for the enforcement of sanitary ordinances in cities of the Republic of Panama. He was directed to build the canal and carry on very large fiscal operations in a country where there was an insufficient currency and one with a different monetary standard from our own. He must employ to pay a large part of the laborers the local money of Panama. He must secure that in some way. By agreement with Panama it could be done temporarily at least. The power to establish a *modus vivendi* in respect of the many matters in which the two jurisdictions must come into contact was indispensable to the execution of the mandates of Congress.

(The Committee thereupon adjourned until to-morrow, Thursday, April 19, 1906, at 10.30 o'clock a. m.)

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Thursday, April 19, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Hopkins, Ankeny, Morgan, Taliaferro, and Simmons.

STATEMENT OF HON. WILLIAM H. TAFT—Continued.

The CHAIRMAN. Proceed, Mr. Secretary.

Secretary TAFT. I had reached yesterday, gentlemen, the subject of the power of the President to make arrangements or a *modus vivendi*, pointing out the reasons why it was absolutely necessary. The power to establish a *modus vivendi* in respect of the many matters in which the two jurisdictions must come into contact was indispensable to the execution of the mandates of Congress.

THE OLD COMMISSION, ITS WORK AND THE REASONS FOR ITS RETIREMENT;
THE REORGANIZATION; THE NEW COMMISSION AND ITS WORK.

The Commission which was appointed on the 3d of March, 1904, with Admiral Walker at its head, did a great deal of very hard work. It was composed of able and honest men, and in certain directions it secured admirable results. Messrs. Burr, Parsons, Grunsky, and Harrod were excellent engineers, and were well adapted to direct the engineering surveys which were projected and begun before a chief engineer was appointed. General Davis, although not by profession an engineer, is nevertheless much better qualified to speak on engineering subjects than most engineers.

General Davis was an admirable man for the organization of the government of the Zone—painstaking, hard-working, clear-headed, economical, courageous, and loyal. He was generally absent from the deliberations of the Commission, which usually met at Washington, and he exercised no authority on the Isthmus other than as governor and supervisor of the sanitation measures. He is not, therefore, to be held responsible for such shortcomings of the Commission as may appear.

Admiral Walker had had a great deal of experience in the investigation of both the Nicaraguan and the Panama canals, knew the Isthmus well, and had been an able naval officer. In the selection of the chief engineer, and in the organization of the government of the Zone and the preliminary engineering work, in the organization of the sanitary force, the selection of the chief sanitary officer, in the enactment of the laws for the Zone, the Commission showed itself well adapted to the work which lay before it.

The old Commission organized the sanitary department under Colonel Gorgas, and it is entitled to credit for the success which has attended Colonel Gorgas's efforts, although of course Colonel Gorgas himself is the chief agent in having brought this about. I have been at times inclined to doubt whether the Colonel's plans were best adapted to the speedy sanitation of the Isthmus, and whether he had the executive ability which would lead to satisfactory results; but I am entirely willing to admit that he has vindicated his theories and has carried them to a logical conclusion and has wrought a wonderful change in the health conditions on the Isthmus.

L.

The Commission also began under Mr. Wallace the work of reconstructing the old French houses in which it is intended that the employees and laborers shall live and had reconstructed about 350 out of 2,100 when Mr. Wallace left. They constructed a hotel at Corizal and a hotel at Culebra, and they projected and almost completed before they were retired the water supply for the city of Panama, and for many of the other towns in the Zone. They attempted to secure the needed employees to make the working force on the Isthmus. The application of the civil service law in a modified form and their reliance on the Civil Service Commission to furnish employees did not result fortunately. I append statements by Mr. Pepperman and Mr. Cooley on this subject, marked "Exhibit 11." The truth is that neither the Washington bureau of the Commission nor the Civil Service Commission was able to furnish the skilled workmen and "outside" employees that were required. The Civil Service Commission did not have eligibles of the kind needed or machinery to secure them. This country was prosperous, most people who would have been useful on the Isthmus had employment, and it was difficult to secure the kind of men who were wanted. Mr. Wallace complained greatly of the incompetency of the men who were sent to him, and I am bound to say that his complaints were well founded. I do not think that in this respect the Commission met the situation. The application of the civil service law could have been modified to meet the exigencies, as it has been since. It would have been better if they had sent out competent, professional employers of labor to secure the proper men, as the new Commission has since done. As the work expanded and the demand for men grew greater, the defect of its organization in this respect became more apparent.

The work of excavation which was done by Mr. Wallace under the old Commission at Culebra was carried on largely for the purpose of experiment. I do not feel competent to pass judgment on the wisdom of what was done there. The use of the Belgian engines and the French tracks and the small cars and the old French dumps, which were not well placed, and the lack of the element of the long haul, which will probably enter largely into the cost of most of the excavation, created such a difference between the experimental and the actual conditions to be met that I am inclined to think that the data obtained are not very valuable and that the time and attention spent might better have been put on the construction of houses and the sanitary construction work of which there was so much needed. But I venture this opinion with great hesitation and with deference to the judgment of Mr. Wallace and the professional engineers of the old Commission. Certainly the excavation of 700,000 cubic yards is an excavation that will not have to be done again.

I am sorry to have been misled into the incorrect statement of Mr. Stevens's views which Mr. Wallace regards as a slur upon his work. From Mr. Stevens's reports, and from his evidence until the question was definitely put, I had supposed that he intended to say that some of the dumps used by Mr. Wallace would have to be moved, and so some members of the committee understood Mr. Stevens's statement to mean this, but when the direct question was put it appeared that while some of the old French dumps where material was deposited by Mr. Wallace would have to be moved, none of the material which Mr.

Wallace placed there would have to be removed. I regret the mistake very much.

The chief defect of the old Commission, if I may say so, became apparent when it essayed the tremendous executive task of perfecting an organization to furnish the equipment, the material, and the supplies required in increasing quantity on the Isthmus as the work expanded, with promptness and dispatch. This was a complaint which Mr. Wallace might most justly make and which he did make. It was one of the chief obstacles in the performance of his task.

I do not mean to say that under any circumstances and under any management the opening of the canal project and the ordering of equipment, supplies, and construction material at such a long distance would not have been attended with exasperating delays, but it is quite apparent that the methods of the Commission for this purpose were not businesslike, expeditious, or systematic.

The purchasing department was conducted by Mr. Redfern, who was a secretary or clerk in the office with but little previous experience as a purchasing agent. While he was a hard and faithful worker and did all he could, he was swamped with the requisitions which came to him; so that on February 1, 1905, when Major Gallagher took hold he found a great number of requisitions in the office of the Commission that had not even been opened. Major Gallagher testified before this committee as follows:

Senator GORMAN. During that time, from the time of your employment to the date of the expiration of the old Commission, what was the character of the complaints of failure to act upon requisitions for material on the Isthmus, made from the Isthmus? Was it very great?

Major GALLAGHER. I think there was considerable complaint that there was delay in receiving material. There was an accumulation of business there; there is no doubt about that. The gentleman who was acting, Mr. Redfern, was overwhelmed with work. He had a few clerks trying to do this work, and there was a great accumulation of these requisitions. I found requisitions there nearly four months old that had not been acted upon, and the principal work then, of course, was to get these out, to get them advertised, and to try to get the material down there. During the month of April we opened bids on twenty-two days, showing the amount of material we were purchasing at that time.

Senator GORMAN. Then the fault was the fault of the organization rather than the failure of the contractors to comply?

Major GALLAGHER. There is no doubt that the lack of a purchasing department was responsible for a good deal of the delay. If that department had been established earlier, say when the Commission began work, I do not think there would have been anything like the accumulation of requisitions that I found there.

* * * * *

In my opinion, the principal delay was due to the fact that there was no regularly organized purchasing department, although there has been some delay, due to contractors not delivering material on time. But the principal delay was due to the fact that there was no regularly organized department to handle those requisitions as soon as they came in. * * * It has been thoroughly organized since.

I append a list of thirty-two requisitions found by Major Gallagher, unacted on when he entered the office of the Commission, February 1, and a list of those on hand when Mr. Ross, the present purchasing agent, came on June 1, marked "Exhibit 12."

General Davis, when I was on the Isthmus, pointed out instance after instance in which he had submitted matters to the Commission for decision which were delayed so long that he could not understand it. I sent an inspector from the Surgeon-General's department to Panama for the purpose of making a report upon the sanitary measures begun and carried on there. I directed that he report to General Davis,

to Colonel Gorgas, and to the chief engineer, but that he exhibit his instructions to no one else.

The report of Major Mason, I think, is of sufficient interest to the committee to publish it in full, and I therefore append it as Exhibit 13. In this report Major Mason states that the principal large requisition for medicine and medical supplies was made about the 1st of August, 1904, and at the date at which he wrote (February 8, 1905) not one item had been received, and that other large requisitions had met the same fate, and that Governor Davis told him that these requisitions were approved by him and went forward promptly, and that he had done all in his power to get them filled, and what the trouble was he did not know. Meantime, he said, he had bought what was most urgently needed through the local markets, and even articles purchased in the local market had sometimes required nearly, or quite, a month for delivery.

The body of seven Commissioners, with each one an executive, was not well adapted to the growing work. Admiral Walker frequently said to me in the trip which we took to the Isthmus in December, 1904, that some change must be made in the organization of the Commission if the proper results were to be obtained. I think that the admiral felt that if he had the executive power himself he could meet the situation, but that with a clumsy body of seven constantly called upon to exercise executive functions as a unit rapid and efficient action was most difficult to obtain.

Colonel Hecker resigned November 16, 1904, and it was understood at the time from Colonel Hecker that the chief reason for his withdrawal was his feeling that under the present organization the Commission was not likely to accomplish well the purpose for which it was created and appointed.

Mr. Parsons and Professor Burr visited the Isthmus in February and March, 1905, and on their return Mr. Parsons advised me of his intention to resign from the Commission on the ground that it was not so organized as to make executive work by it successful. He expressed himself in the same way to the President. He sent to me a plan of reorganization which he regarded as one which would work.

General Davis under date of January 6, 1905, wrote me as follows:

The newspapers have stated that in the special report which you have recently submitted to the President a recommendation is contained for a reduction of the number of members of the Isthmian Canal Commission. I hope the report is true, for I am satisfied that the present body is far and away too cumbersome and ineffective.

In a letter transmitting the annual report of the Canal Commission January 12, 1905, to be found on page 2393 of this evidence, I suggested that the present form of the Commission was not elastic and not well adapted to canal work, and the President sent a message on the same day concurring in my view and recommending a change of the law by reducing the Commission to five or three, and giving him greater discretion in dealing with the Commission.

The committee is familiar with the parliamentary history of the bill passed by the House in view of this recommendation and giving the President complete discretion to select his agents. For convenience I append that bill, marked "Exhibit 14," together with the amended form in which it passed the Senate, and was subsequently carried into conference. The Houses could not agree, and the bill failed.

On the adjournment of Congress on March 4, 1905, it became apparent that something must be done by the Executive, and the question was "What?" I was inclined to think at the time I transmitted the Commission's annual report, and so expressed myself in the letter of transmittal, that the Spooner Act should be construed to mean that the President must construct the canal through the Commission as an executive body, and that he could not make differences in matter of duties or salary between the different members. Subsequently, however, I reached the conclusion that my first impression was erroneous and that he could do so, provided the Commission was retained as an organized body, and that it confirmed all the acts which were done in its name and under its authority, that the Commission might be treated as the directory of a railway company, and that the executive part of the work might be done through the chairman and an executive committee, while the remainder of the Commission could be used as a consultative body for engineering purposes, and only as a supervising and confirming body for executive purposes.

In reorganizing the Commission we attempted to follow the suggestions of Mr. Wallace, Mr. William Barclay Parsons, and General Davis. I append the letters and memoranda of Mr. Wallace, Mr. Parsons, and General Davis on this subject, marked "Exhibit 15."

The order of April 1 specified the duties of the chairman of the Commission, and the other members of the Commission, made the chief engineer a member of the Commission, and the governor of the Zone a member of the Commission, and constituted them an executive committee with power to act. The remaining four were engineers, and were paid a considerably less salary than those which were provided for the chairman of the Commission, the chief engineer, and the governor of the Zone; or, to put it in another way, the salary of each member of the Commission was fixed at \$7,500, and the chairman received in addition to that as chairman \$22,500, the chief engineer received \$17,500 additional, and the governor of the Zone \$10,000 additional. The organization is shown on page 4 of the ninety-first meeting of the Isthmian Canal Commission, as follows:

For convenience of executing the work to be done, there shall be constituted three executive departments.

(a) The head of the first department shall be the chairman of the Commission, who shall have direct and immediate charge of—

1. The fiscal affairs of the Commission.
2. The purchase and delivery of all materials and supplies.
3. The accounts, bookkeeping, and audit.
4. The commercial operations in the United States of the Panama Railroad and steamship lines.
5. He shall have charge of the general concerns of the Commission, subject to the supervision and direction of the Secretary of War, and shall perform such other duties as may be placed upon him from time to time by the Secretary of War.

(b) The head of the second department shall be the governor of the Zone, with the duties and powers indicated in the Executive order of May 9, 1904, which includes in general:

1. The administration and enforcement of law in the Zone.
2. All matters of sanitation within the Canal Zone, and also in the cities of Panama and Colon, and the harbors, etc., so far as authorized by the treaty, the Executive orders and decrees of December 3, 1904, between the United States and the Republic of Panama relating thereto.
3. The custody of all supplies needed for sanitary purposes, and such construction necessary for sanitary purposes as may be assigned to this department by the Commission.
4. Such other duties as he may be charged with from time to time by the Secretary of War.

5. He shall reside on the Isthmus and devote his entire time to the service, except when granted leave of absence by the Secretary of War.

(c) The head of the third department shall be the chief engineer. He shall have full charge on the Isthmus—

1. Of all the actual work of construction carried on by the Commission on the Isthmus.

2. The custody of all the supplies and plant of the Commission upon the Isthmus.

3. The practical operation of the railroad on the Isthmus with the special view to its utilization in canal construction work.

4. He shall reside on the Isthmus and devote his entire time to the service, except when granted leave of absence by the Secretary of War.

The result of the operations under the old Commission convinced me and convinced the President that it was absolutely essential to have a completely new organization in Washington for the purchase and forwarding of supplies, machinery, and construction material, and also for the procurement of the needed employees. In other words, it was essential that this work should be attended to by someone who had large experience in the construction of railroads or other important work, and who understood the methods by which the parts of the organization were assembled and made effective. A number of candidates were selected, and after a careful investigation, the President concluded that Mr. Shonts filled the requirements of the position in a most satisfactory way.

I do not hesitate to say that one great difference between the work of the old Commission and of the new is due to Mr. Shonts's experience and energy in effecting and maintaining an organization for the purpose of selecting employees, making proper contracts for the purchase of needed machinery and material, pushing forward the transportation of such equipment and supplies and for instituting a proper system of accounts and records.

The whole office of the Commission in Washington was reorganized. Mr. Benson, an auditor of long experience in railroads, was made the general auditor of the Commission; Mr. David W. Ross, one of the ablest railroad purchasing agents in the United States, was employed to reorganize the purchasing department, and the selection of employees was placed under Mr. Pepperman, who had large experience in civil service, both in this country and in the Philippines.

The organization has, on the whole, worked very well. When Mr. Stevens succeeded Mr. Wallace he was not made a member of the Commission, so that the executive committee now consists only of Mr. Shonts and Governor Magoon. This would have been inconvenient but for the presence of the four engineer members of the Commission in Washington, where Mr. Shonts has been; so that it was possible to do all necessary business through the Commission instead of an executive committee.

The order contemplated the presence of Mr. Shonts on the Isthmus six months in the year, but it has been absolutely impossible for him to be as much on the Isthmus as was contemplated when the order was made. The organization of the bureaus here, the purchase of material, and the calls for his presence in view of the investigations by appropriation committees and this committee have made it entirely out of the question that he should be on the Isthmus half his time. He has done extraordinarily good work in bringing about the organization at this end, and it has been work which has effected great results upon the Isthmus. Mr. Shonts has himself stated the circumstances with reference to his continuing to hold the office of president

of the Clover Leaf Railroad, and I shall not add anything to the statement.

Senator HOPKINS. Before you leave that point, is it your opinion that in the future Mr. Shonts will be required to be here as much as he will be on the Isthmus?

Secretary TAFT. No, sir. I think just at present, for some little time, his presence will be required here perhaps as much as it has been heretofore, but ultimately I think the whole government of the work ought to be on the Isthmus.

Senator HOPKINS. But it will require his presence here part of the time to supervise and look after the purchases that are necessary to be sent there?

Secretary TAFT. Yes, sir; but I think he could do that in the half of the time that is included in the order. My idea is that the matter on the Isthmus ought to be conducted much as the government of the Philippines is; that there ought to be a Bureau here which shall do the errands and do the work needed here, but that the work on the Isthmus should be under control of a body there.

Senator DRYDEN. Mr. Secretary, is it your idea that the supreme authority should be on the Isthmus rather than here?

Secretary TAFT. Not the supreme authority, but the executive authority.

Senator SIMMONS. You said that just at present Mr. Shonts would probably have to remain here a great deal. You mean while Congress is in session and these matters are up?

Secretary TAFT. Yes.

Senator SIMMONS. After that he can go and spend most of his time on the Isthmus?

Secretary TAFT. Yes, sir.

THE PANAMA RAILROAD; ITS CONDITION AT THE TIME OF THE TRANSFER; THE ACQUISITION OF THE OUTSTANDING SHARES OF STOCK BY THE GOVERNMENT IN THE SPRING OF 1905; THE QUESTION OF THE CONTINUANCE OF THE STEAMSHIP LINE; THE QUESTION OF RATES; THE CONGESTION OF TRAFFIC AND THE PACIFIC MAIL.

Sixty-eight thousand eight hundred and eighty-eight shares of the 70,000 shares of the capital stock of the Panama Railroad were transferred by the New French Panama Canal Company to Messrs. Day & Russell, agents of the United States, in Paris, on the 7th day of May, 1904, and on the 18th day of May they were transferred to my name as Secretary of War. This was after the annual meeting held on the first Monday in April, at which the board of directors had been elected for the ensuing year. In the letter of instructions of the President of May 9, 1904, the President said:

By virtue of the ownership by the United States of about sixty-nine seventieths of the shares of the capital stock of the Panama Railroad, the general policy of the managers of said road will be controlled by the United States. As soon as practicable, I desire that all the members of the Isthmian Canal Commission be elected to the board of directors of the road and that the policy of the road be completely harmonized with the policy of the Government of making it an adjunct to the construction of the canal, at the same time fulfilling the purpose for which it was constructed, as a route of commercial movement across the Isthmus of Panama. If any contracts or other obligations now subsist between the railway company and other transportation companies that are not in accord with sound public policy, then such contracts must be terminated as soon as it is possible to effect that object.

Three of the directors elected in April, were induced to resign on July 14, and in the vacancies were elected by the Board Admiral Walker, Mr. Burr, and Mr. Grunsky. Commissioner Parsons was made a director September 15 and Commissioners Davis, Harrod, and Hecker were made directors on October 27, 1904, and in this way after that date the Commission constituted a majority of the directors, but the election of new officers did not come until April, 1905.

At the time the shares of stock came into the hands of the Government the road was being run under an exclusive contract with the Pacific Mail Steamship Company. After a full examination of the contract, I became convinced that it was not one which the Government could afford to continue. It, in effect, by through billing, secured a monopoly of all the business for the Pacific Mail north of Panama to San Francisco. The contract provided for its termination by six months' notice, and accordingly I invited the attention of the board of directors to the question, and after considerable correspondence and discussion as to the validity of the contract, notified them that in my judgment the six months' notice should be given. It was accordingly given on the 12th of January, 1905, which terminated the contract on the 12th of July of the same year.

The Pacific Mail in view of this action threatened to withdraw their steamers from the line between San Francisco and Panama, and this led to correspondence and a final conference with Mr. Schwerin on June 25 in New York City, at which he concluded to run the line, as he said, for an experiment.

When I came to elect the directors at the annual meeting of the railroad company in April, 1905, I selected Mr. Cromwell, for reasons which I shall hereafter explain. I put on to the board the entire Commission—Mr. Parsons, who was a member of the Consulting Board; Colonel Edwards, who at the time was engaged in assisting to reorganize the office of administration of canal affairs in Washington; Mr. Drake, for years vice-president of the company, and more familiar in an executive way with its affairs than any other person; Mr. Farnham, the assistant in Mr. Cromwell's office, who had had large acquaintance with ships and shipping, who was well known on the Isthmus, and who understood the conditions that prevailed there, and who subsequently was selected because of his knowledge of shipping by the executive committee to go abroad to price ships and make a report upon them.

I also elected Mr. Obaldia, the Panamanian minister. I did this because I thought it was most important to have the Panamanians understand that they would have on the board three of their friends—Señor Obaldia, Mr. Cromwell, and Mr. Farnham—to protect them against the use of the railroad in any way which would be contrary to their legitimate interests. The selection of Señor Obaldia was a courtesy to the people and the Government of Panama, which I have reason to believe was highly appreciated. Matters of this sort go very much farther with a Spanish-American people than they do with an Anglo-Saxon people. Mr. Farnham was recommended for appointment by Colonel Edwards, and Señor Obaldia I appointed without suggestion from anyone.

While the Panama Railroad was able to do the commercial business and had in 1902 completed a large dock at La Boca, on the Pacific side, at a cost of \$2,200,000, it has been quite apparent that the road with its equipment and one track and the terminal facilities, even with

the La Boca dock, is wholly inadequate to the business which must now be done on it as an instrumentality for the construction of the canal. The Canal Commission has therefore made an arrangement to advance about a million dollars out of its funds to the railroad company to make needed improvements, which include a very great enlargement of the terminal facilities and docks and the double tracking of the road. The equipment of the road is not up to date, and new engines and new cars have been required.

When the transfer from the French Panama Canal Company was made there were outstanding in the hands of private persons 1,112 shares of capital stock. In 1904 Admiral Walker advised me that 100 shares had been offered the Commission, and I directed him to buy them. This made the stock outstanding 1,012 shares. The Government, of course, while it recognized the obligation to discharge the duties of a common carrier under the charter of the railroad company, was anxious that it might use the railroad as it saw fit to aid in the construction of the canal. The interest of the outstanding stockholders, of course, was only in securing dividends from an economical operation of the road and management of its finances. They might very well complain, in equity, if the Government, by reason of its owning sixty-nine seventieths of the stock, should ignore their interests and devote the road to the construction of the canal without regard to dividends.

Everybody recognized the awkwardness of having the shares of stock owned in this way, and it was proposed in the House bill already referred to to authorize a condemnation of the stock. Another method proposed was to have the road leased by the company to the Government at a fair rental, which should be a proper dividend on the stock, the Government assuming the obligation to discharge the duty of common carrier on the one hand and using the road for the purpose of building the canal on the other. I recommended the latter plan, because with some knowledge of efforts of this kind in other corporations I despaired of being able to buy all the stock down to the last share. However, we made the effort to buy, and by June, 1905, we had succeeded in securing for the Government every single share of stock.

One of the questions presented with reference to the railroad company was the policy of continuing the steamship line. General Davis in his report had recommended that the steamships be sold and that the operations of the Government be confined to the running of the railroad. I was very much inclined to this view myself, and I believe that that is the view of Mr. Wallace; but further investigation satisfied me that it would be exceedingly unwise, with an established line, if we could make the line pay expenses, to abandon an instrumentality that would enable us to control the rates of freight from the United States to Panama. Speaking of this very question, the subcommittee of the Interstate Commerce Committee of the House of Representatives, which investigated the affairs of the Panama Railroad Company in the 58th Congress, strongly recommended the continuance and even extension of the shipping line of the railroad company. I append this report, marked "Exhibit 16."

I became convinced that it would be impossible for us, unless we maintained this line, to escape the result of a combination as to rates among the steamship lines; and in addition it is, of course, a very

great convenience to have the control of our own line in the carriage of employees and in the transportation of our machinery, construction material, and supplies. I consented, therefore, to the purchase by the Canal Commission of the two steamships, the *Mexico* and the *Havana*, for \$650,000 each, in order to improve the line and make it as useful to us as it ought to be to us in respect to the construction of the canal.

These steamships were offered to us at first at \$750,000 each. Mr. Farnham was sent to Europe for the purpose of finding out what steamers were available there for sale. After he had made his report and had shown what steamships could be purchased, and the prices, it was found that, with the advantage of carrying the American flag, the purchase of the *Mexico* and the *Havana* from the Ward Line was really the most advantageous. The purchase was made by Mr. Shonts, through Mr. Vernon H. Brown, of the Cunard Line.

Senator MORGAN. Did you ever consider the question whether Congress had ever made a provision for purchasing those ships?

Secretary TAFT. Yes, sir; I considered it in this light: Exactly in the same way in which we lend money to the Panama Railroad; that there was such wide discretion in the President to build the canal that anything that was regarded as necessary in the building of the canal he could do.

Senator MORGAN. Even without any stipulated appropriation for any purpose whatever?

Secretary TAFT. Yes, sir.

Senator MORGAN. I just wanted to know what your view was on that subject.

Secretary TAFT. The Spooner Act is very broad in the discretion given to the President.

Another question which has been mooted with respect to the railroad is that of rates. The fact in respect to the rates on the railroad is that we have lowered them as much as we feel justified in doing at present, with the present equipment of the railroad and the inability to do the business as economically as we hope to do it. We can not afford to make our charges below what it costs us to run the railroad, and the fixed annual charge of more than \$5,000 a mile which we have to pay as a subsidy of course increases the rate of freight which we must charge them.

Mr. Wallace thinks that we ought to make a flat rate of \$2 a ton across the Isthmus for everything. He once suggested this to me, and it was very attractive in its simplicity and resemblance to canal tolls on ship tonnage, but one difficulty is that the cost of conveying the freight is \$3.06 a ton, as the traffic manager of the road advises me, which would make a loss to us in running the railroad of \$1.06 a ton. Instead of that, our average charge is about \$3.69 a ton, which does not make an unreasonable profit. We have reduced the freight rate from New York to Panama on most goods 33½ per cent or more. We are not much more than paying expenses with our shipping line. The through rates are divided, 45 per cent to the railroad and 55 per cent to the steamship. Two other steamship lines run from New York to Colon, the Royal Mail Line and the Atlas Line, and a line from New Orleans to Colon, all of which connect with us.

Senator MORGAN. Is that line from New Orleans to Colon one of those fruit lines?

Secretary TAFT. Yes, sir.

Senator MORGAN. What is the name of it?

Secretary TAFT. The United Fruit Line.

Senator MORGAN. The United Fruit Company. Yes.

Secretary TAFT. From all of these lines the railroad accepts the same pro rata proportion, 45 per cent, and thus makes no discrimination and attempts no monopoly. When we reduced the rates from New York to Panama, the lines from Europe to Colon had to reduce their rates. We reduced the local passenger fares from $8\frac{1}{2}$ and 10 cents a mile, first class, to 5 cents, and from $4\frac{1}{2}$ and 5 cents to 3 cents a mile for second-class passengers. The local rates of freight on the Isthmus have also been reduced about the same percentage. I append the correspondence with Mr. Walker, the traffic manager of the railroad, and his reply to a letter of criticism forwarded to this office, as Exhibit No. 17.

I shall not attempt to describe the congestion in freight which occurred upon the railroad in the spring of 1905, and which was aggravated greatly in the summer of that year by the quarantine which was imposed for yellow fever and for bubonic plague. It has been made the subject of rather acrimonious discussion between Mr. Schwerin on the one hand and Mr. Shonts on the other, and I do not care to take part in it. At my suggestion two weeks ago Mr. Shonts went to the Isthmus with Mr. Schwerin, the agent of the Pacific Mail, there to confer with Mr. Stevens and to see whether their differences could not be so adjusted as to prevent the continuance of complaints that have been made by the agent of the railroad against the Pacific Mail and by the agent of the Pacific Mail against the conduct of the railroad company for many years. I am glad to submit a telegram which I received a day or two ago from Mr. Shonts, which shows that thorough work has been done in cleaning up the congestion and in making the road operate as it should. The telegram is as follows:

Have just completed a personal investigation of the Panama Railroad and terminals. I find that there is not only no congestion, but that every dock is absolutely clean; that all business offered is handled promptly, and with the additional equipment now arriving a larger business can be taken care of without in any way interfering with the canal work. The organization is ample and has every feature of the work in hand.

I am very hopeful that we may be able to still more reduce the rates on the Isthmus, both local and through rates, so that we may benefit the people of the Isthmus, and also those who wish to patronize this method of transportation from New York to San Francisco. On April 24, 1905, in a letter to Mr. James J. Hooker, of Cincinnati, which was published, I expressed the attitude of the Administration with respect to the rates made across the Isthmus. That letter is as follows:

APRIL 24, 1905.

MY DEAR MR. HOOKER: I am in receipt of your letter of April 21, and have read it with interest.

The policy of the Government in managing the Panama Railroad is to charge such rates as will pay, for the carriage of the goods across the Isthmus, a reasonable return on the investment of the Government, and nothing more. It will permit no discrimination against or in favor of any of the connecting steamship lines. It may be that this policy will affect the transcontinental rates as to those classes of freight that can stand the Isthmus trip favorably for the shipper.

However, Mr. Wallace, our chief engineer, and a railway manager of experience, thinks that the proposed changes will not have much influence on transcontinental rates, because he thinks that but a small proportion of that which goes to make up transcontinental freight can be carried by the Isthmus. The long trip, and the fact

that the merchandise carried is to be a considerable period in the Tropics, exclude the possibility of carrying many kinds.

The Panama Railroad Company owns three steamships, which ply between New York and Colon. We shall make the rate upon these ships as low as possible, consistent with paying a reasonable compensation for the carriage and the investment. We shall run them merely for the purpose of preventing a combination to raise the rates for the delivery of material for the construction of the canal from the United States to the Isthmus.

The Government is not running and does not expect to run a line between New York and San Francisco or between San Francisco and New York; hence the relation of its policy to transcontinental rates is only indirect. The policy of the Panama Railroad Company heretofore, in view of its ownership of the three ships and the docks at Colon, and its resulting ability to exclude from the New York and Colon business any other steamship line, has been to monopolize the trade between New York and Panama on the one side, while its arrangement for exclusive through billing between New York and San Francisco with the Pacific Mail Steamship Company produced a monopoly for the Pacific Mail trade on the other side between Panama and San Francisco on the north and a monopoly for the Chilean and Pacific Steamship companies from Panama to the south. So far as the action of the Panama Railroad Company can break up these monopolies, it is being taken.

The Government's acquisition of the railway lines was not primarily for the purpose of affecting railway or ocean rates, transcontinental or otherwise. It was for the purpose of acquiring an instrument with which to construct the canal—an instrument absolutely indispensable to the accomplishment of our purpose within a reasonable time. The incident that we must hold the railroad under a franchise requiring us to do a commercial business is what imposes upon us the obligation to do what we can to make just rates and prevent discrimination, and this we shall do. If this ameliorates conditions, we shall be very glad. If it does not, it will not be in our power to do more.

The effect of changes in rates and trade conditions is so elusive that it is hardly safe to make a prediction as to the result. One should study the local conditions which prevail at Panama and at the many ports between San Francisco, in Mexico and Central America, and should estimate the exact operation of our coastwise laws, which prevents the intervention of foreign shipping in the trade via the Isthmus between San Francisco and New York, before expressing an opinion as to the effect of the Government's operation of the Panama Railroad upon the trade between our east and west coast. An attempt has been made heretofore to establish an American line competing with the Pacific Mail between San Francisco and Panama, with the assistance of the Panama Railroad Company. It proved to be a disastrous failure, and was therefore followed by a renewal of the discriminating contract which is to terminate in July next.

It is possible that the time is now ripe for the establishment of American competition with the Pacific Mail between San Francisco and Panama. Certainly the Government, in operating the Panama Railroad, will do nothing to hinder it. Nevertheless, it is possible that the position of advantage that the Pacific Mail has with respect to Mexican and Central American trade, and its ownership of a dock at Colon, may enable it to establish lines on both sides which will do all the through business and fix the rates without enjoying any discrimination in its favor by the Panama Railroad. If so, the Government could not prevent this, except by running a line from Panama to San Francisco for the purpose, which it can not do.

Mr. Shonts could hardly have been correctly reported in the interview you send me, because he fully agrees with the policy of the Government, as I have outlined it above.

Should you have any criticisms to make upon it, my dear Mr. Hooker, I should be glad to hear from you.

Very sincerely, yours,

WM. H. TAFT.

MR. JAMES J. HOOKER,
*Chairman Executive Committee,
The Receivers and Shippers' Association Company
of Cincinnati, Union Trust Building, Cincinnati, Ohio.*

After writing this letter I sent Mr. Bristow, the former Assistant Postmaster-General, to New York, New Orleans, San Francisco, and to the ports of Central and South America and to the Isthmus, for the purpose of investigating the question of rates and the management of

the steamship company and the railroad. His report is at the service of the committee, and probably, although long, ought to be embraced in your record. I hand it herewith to your secretary.

Some suggestion has been made that the question of the effect upon the cost of transportation over the eastern and the western seaboard by transcontinental lines plays a part in our rates on the Isthmus. I beg to say that this is altogether contrary to the fact so far as the Commission, the Panama Railroad Company, and the Administration are concerned. The intimation is that we have drawn our executive officers, Mr. Shonts, Mr. Stevens, Mr. Ross, and Mr. Benson from railroads, and that some of them have been connected with the transcontinental railroads. We did not consider when they were appointed what roads they had been connected with. What we were anxious to do was to secure the best men, and while doubtless they were loyal to the roads they left while they were in their service, there is not the slightest reason to suspect that any one of them has any bias whatever which would lead him in his official capacity to oppose any traffic policy of the Panama Railroad Company which might affect injuriously in a competitive way transcontinental lines. I am informed—I do not know how correctly—that the rates to San Francisco via the Isthmus are now about 30 per cent less than the transcontinental rates. If we find that we can, without running the railroad and the steamship lines at a loss, reduce these rates, we shall do so.

I hope that nothing will be done to merge the corporate entity of the railroad company into that of the Government or the Commission. Under the present arrangement, it is just as easy to have close supervision over the management of the railroad as if it were nominally operated by the Commission, and the corporate form secures the utmost convenience and elasticity of control.

Senator MORGAN. Right there I would like to ask you a question. Have you ever considered the question whether the Hay-Varilla treaty does not repeal and abolish that corporation?

Secretary TAFT. No, sir; I do not think it does. That question never occurred to me, Senator.

Senator MORGAN. It is a very formidable question, in my judgment, and my opinion is a fixed one, that that treaty has repealed that charter, necessarily. Whenever we acquired all the property of every kind and character belonging to this defunct corporation, it disappeared, under the supremacy of the treaty, which is the supreme law of the land.

Secretary TAFT. Well, I should regard that as a very unfavorable result, if that is the case. I think it ought to be sustained if it can be.

Senator MORGAN. I think it is the reverse; that it is the most favorable result.

Secretary TAFT. I am sorry—

Senator MORGAN. We would not get rid of any of our obligations. Our duties are the same toward it, morally and perhaps legally. But, at all events, I can not conceive that that company could sue any agent of the United States Government for anything whatever or could sue anybody else for anything that was done by permission of the canal authorities in the Zone. I think it would go out of court at once, for the reason that its charter is absolutely exterminated by the act of ratification of the Hay-Varilla treaty. I beg pardon for disturbing you.

Secretary TAFT. I would be glad to come back to a discussion of that, Senator, later on.

Senator MORGAN. It is a very important question, you see.

I am in receipt of a letter from Senator Allison suggesting the wisdom of the purchase by the Government of the bonds owed by the Panama Railroad Company, which are a lien on the company's property, and the interest on which constitutes a fixed charge, on the ground that it would be a saving of interest for the Government to redeem them now. The interest is $4\frac{1}{2}$ per cent on the mortgage bonds. The following is a table of the fixed charges of the company:

The company's fixed charges at the present time are \$501,290 per annum made up as follows:

Interest on \$2,251,000 first mortgage $4\frac{1}{2}$ per cent bonds outstanding.....	\$101,290
Sinking fund requirement of first mortgage bonds	150,000
Annual rental or subsidy to Republic of Colombia under contract of concession and represented by annual drawings of subsidy bonds and payment of interest	\$225,000
Annual rental or subsidy to the United States as successor to Republic of Panama under the treaty.....	25,000
	<hr/>
	250,000
	<hr/>
	501,290

Senator KITTREDGE. You mean to the Republic of Panama instead of to the United States, do you not, Mr. Secretary?

Secretary TAFT. No; that \$25,000 was paid to the United States.

These fixed charges will be reduced each year to the extent of the amount of interest on the number of outstanding $4\frac{1}{2}$ per cent first mortgage bonds that are annually purchased by the trustees or drawn for redemption by the regular sinking fund appropriation of \$150,000; the maximum annual reduction would be \$6,345, i. e., interest of \$45 each on 141 bonds.

This statement needs a little explanation. In the $4\frac{1}{2}$ per cent mortgage there is a provision requiring the redemption of about \$150,000 of bonds a year, constituting in effect a compulsory sinking fund provision. There is in the mortgage provision a right to take up any of the bonds or all of them on the first of any April or October upon three months' notice at a premium of 5 per cent. I believe it would be wise and profitable to take up the outstanding bonds at this premium, and I recommend to this committee and the Appropriations Committee that it be done.

With respect to the subsidy it should be explained that under the original concession to the Panama railroad it agreed to pay an annual rental charge for the franchise and privileges conferred on it by the Colombian Government of \$250,000 a year. Twenty-five thousand dollars of this per year was assigned to the Department of Panama. Two hundred and twenty-five thousand dollars was reserved to the Government of Colombia, and the Government of Colombia desiring to realize in advance upon this subsidy induced the railroad company to issue what were called subsidy bonds, paying 6 per cent interest, which were so arranged that the amount of interest paid on them, together with the principal, would be equal to the payment of the subsidy down to 1908, and would effect the cancellation of a certain number of bonds a year, to be drawn by lot, so that all of the bonds would be canceled by 1908.

When this is done the subsidy under the agreement with Panama will become due to the United States, as indeed the \$25,000 a year

which was assigned to the Department of Panama has already become due to the United States and has been paid over. After 1908, therefore, the whole subsidy will be due to the United States. I am not sure that the subsidy bonds could be purchased. Possibly they could be, but they are not many in number now, and as they are to be retired at any rate in 1908 it is perhaps not worth while to attempt to purchase them. The amount of these bonds outstanding is \$533,000.

Senator HOPKINS. You say that \$25,000 has inured to the United States. By what process?

Secretary TAFT. It just goes into the Treasury of the United States—increases the miscellaneous receipts.

Senator HOPKINS. Yes; I know. But under what theory of law does it go there?

Secretary TAFT. Under the Hay-Varilla treaty.

Senator HOPKINS. Oh, yes.

Secretary TAFT. Upon coming into relation with Panama Canal matters I found Mr. Cromwell acting as general counsel and director of the Panama Railroad Company. He was also counsel for the Republic of Panama and for its resident minister in Washington. In the discharge of his duties as counsel for the railroad company he brought to the service of the company, and therefore to the Government, an immense fund of valuable information with respect to the history of the railroad and affairs on the Isthmus of Panama. He was a lawyer of great experience and ability, and I considered it my duty to secure the benefit of his services for the United States by continuing him in his position as counsel for the railroad company. As counsel for the Republic of Panama he rendered much service in bringing about both the currency agreement of June 20, 1904, and the *modus vivendi* of December, 1904. As counsel for the railroad company and at my direct instance he was able to effect a union between all the bankers of any importance on the Isthmus in making the bankers' agreement of April 29, 1905, which worked so well for the benefit of everybody concerned, except possibly the bankers. As counsel for the railroad company he was the chief instrument by which I was able to purchase on behalf of the Government all the shares of the capital stock of the Panama Railroad Company outstanding. I conferred with him in respect to the form of the order of April 1 reorganizing the old Commission. His intense interest in the success of the Panama Canal has been evident at every point; and he has rendered most loyal, efficient, and valuable service for the comparatively meager compensation which he receives as general counsel for the railroad company.

The impression sought to be given that he has attempted to interfere in canal matters or to exercise great influence in controlling the policies to be pursued is wholly unfounded. So far as I have asked his assistance, he has sought to find out what the Government policy was and loyally to carry it out. If Mr. Shonts or Mr. Stevens or Judge Magoon were interrogated as to whether Mr. Cromwell had interfered in any way with their work or had of his own motion volunteered to do anything except what has been his legitimate duty as counsel for the railroad company, the answer would be an emphatic negative. I never have had the slightest reason to suspect any other motive on his part than a loyal desire to help along the construction of the canal, and I am glad to express in this public way my gratitude for his valuable and patriotic service.

Senator MORGAN. I wish to ask you a question there: Against whom do you intend to aim this eulogy upon Mr. Cromwell? Is it against the men who have testified here or against the Senator who has asked questions about it?

Secretary TAFT. I intend, sir, to deal with all the issues which have come before this committee, and I considered, both because of the character of the questions and the character of the answers by Mr. Wallace and others, that it was necessary for me to go into this question.

Senator MORGAN. Well, then, you bring him forward as a subject of investigation.

Secretary TAFT. I have not brought him forward as a subject of investigation, sir.

Senator MORGAN. But you do now?

Secretary TAFT. He has been brought forward, and I am simply dealing with that subject as I am dealing with others.

Senator MORGAN. You bring him forward now as a subject of investigation—

Secretary TAFT. I do not bring him forward.

Senator MORGAN (continuing). In these remarks that you are now making about him?

Secretary TAFT. No, sir; I am simply covering the subjects which were discussed before.

Senator MORGAN. Then you are answering what has been stated by witnesses and by Senators here?

Secretary TAFT. Yes, sir.

Senator MORGAN. In regard to Mr. Cromwell?

Secretary TAFT. Yes, sir.

Senator MORGAN. And in answering those matters you are testifying in his behalf as an officer of the Government?

Secretary TAFT. I am.

Senator MORGAN. Yes. Now, is he an officer of the Government?

Secretary TAFT. He is counsel for the Railroad Company.

Senator MORGAN. Does that make him an officer of the Government of the United States?

Secretary TAFT. No, sir; but it brings him into such relation that, dealing with the property of the Government, he necessarily has relation to the Government of the United States.

Senator MORGAN. If he is not an officer of the Government, is he an agent of the Government?

Secretary TAFT. In some capacities he is; in some matters.

Senator MORGAN. In what capacities?

Secretary TAFT. He is the agent for the Government in everything connected with the Panama Railroad Company.

Senator MORGAN. Everything?

Secretary TAFT. Yes, sir.

Senator MORGAN. Yes. Well, that, of course, under the action of the Senate, based upon the President's message, would make Mr. Cromwell's conduct a proper and legitimate subject of inquiry before this committee.

Secretary TAFT. That is a question for the committee to determine.

Senator MORGAN. What do you think of it?

Secretary TAFT. It is not for me to express such an opinion. I am attempting to aid the committee upon questions which have been

mentioned before it, and I have assumed that the committee, by hearing those questions, considered that it is a subject for proper inquiry.

Senator MORGAN. I have supposed—as I am responsible for the examination to which you are now evidently referring—I have supposed that the action of every member of the board of directors of the Panama Railroad was open to inquiry.

Secretary TAFT. I am not disputing that, Senator. It is not a question for me. It is a question for the committee and the Senate that has authorized the committee to act.

Senator MORGAN. You are not trying to forestall it, then, by eulogies on Cromwell?

Secretary TAFT. No, sir; I am not stating a eulogy. I am stating facts.

Senator MORGAN. Very good.

Senator HOPKINS. You are referring to instrumentalities that you have used in connection with this work?

Senator MORGAN. I would like to be interrupted in the regular way, if I am to be interrupted at all.

Senator HOPKINS. I am not interrupting you at all; I am speaking to the Secretary.

Senator MORGAN. You are interrupting me, though, in the questions that I am asking.

Senator HOPKINS. I did not interrupt your questioning. You were not asking any question at the time.

Senator MORGAN. I have no objection to interruptions, provided they are regular.

Senator HOPKINS. I think I am quite as regular as you are, Senator.

Senator MORGAN. If you will allow me, Mr. Secretary, I have supposed that under the resolution we are acting under here the conduct of every man who was connected through an agency or an office with the work on the Isthmian Canal at Panama is not only open to inquiry, but that the President has demanded that it shall be made. Do you understand it the same way?

Secretary TAFT. Well, in the presence of the committee, in reference to its own jurisdiction, I should hesitate to express an opinion. I have an opinion, and if the committee desires it I will express it, but I think if I am drawn into a discussion as to what the jurisdiction of this committee is, or what it ought to do in view of the policy of the Government, in view of the situation of affairs, it will put me in rather an embarrassing situation. That is all.

Senator MORGAN. You are at liberty, so far as I am concerned, to proceed to state anything that you want to.

The CHAIRMAN. Proceed, Mr. Secretary.

Secretary TAFT. Suggestions have been made in this hearing of two motives which Mr. Cromwell has had. One is that he represents the new French Panama Canal Company in a claim against the United States for \$2,000,000 or more for work which was done by the Panama Canal Company in the canal construction between 1902, in January, when the inventory was taken, and May, 1904, when the property was turned over to the United States, and the intimation is that he has sought to acquire influence over the Commission by making himself useful to them in order that he might obtain from them a decision in his favor with respect to that claim.

Senator MORGAN. Will you be kind enough to point out who has made any such intimation as that?

Secretary TAFT. Mr. Wallace, and, with deference, Senator, I recall to your recollection that in a question which you put you raised the direct inference.

Senator MORGAN. Suggested upon the statement by Mr. Wallace?

Secretary TAFT. Yes, sir.

Senator MORGAN. And others, too—several others.

Secretary TAFT. I do not remember.

Senator MORGAN. I remember them.

Secretary TAFT. The fact is that soon after the appointment of the Commission it was agreed that the claim should be submitted to the arbitration of the President. The President referred the matter to the Commission for the determination as to the facts and an expression of opinion on the merits of the claim. The matter was presented to the Commission in the spring of 1904, and was decided by them in the fall of that year, and in October their adverse decision was forwarded to me to be submitted to the President. I examined the findings of the Commission, and reached the conclusion that they were entirely proper and that the claim could not be supported. Accordingly, November 15, 1904, I wrote this letter to the President:

NOVEMBER 15, 1904.

MY DEAR MR. PRESIDENT: I herewith transmit the report of the Canal Commission on the subject of the claim of the New Panama Canal Company of more than \$2,000,000 for expenses to which the Panama Canal Company was put in maintaining the property and its franchises after the making of the contract and before its consummation. I fully concur in the conclusion of the Canal Commission that the claim of the New Panama Canal Company can not be sustained either in law or equity. The fulfillment of the contract depended upon certain conditions, and the company could not be certain that those conditions would ever be fulfilled. What they did, therefore, was in part at least to preserve the property for themselves if the sale fell through. More than that, they had agreed to furnish a good title, and much of the work which was done was necessary to preserve the title until the transfer should take place. In other words, they expended money in order that they might be in a position to perform the contract when the time arrived.

There is no power on the part of the Commission to make the payment. The price by law is limited to \$40,000,000, and that has already been paid.

Very sincerely, yours,

WM. H. TAFT, *Secretary of War.*

THE PRESIDENT.

Senator MORGAN. What was the date of that?

Secretary TAFT. November 15, 1904.

Senator MORGAN. 1904?

Secretary TAFT. Yes, sir.

Senator MORGAN. Was Mr. Cromwell notified of that decision of yours?

Secretary TAFT. I assume so. I transmitted it to the President.

Senator MORGAN. He is still prosecuting that claim before the Government?

Secretary TAFT. I have not completed yet, Senator.

Senator MORGAN. Oh.

Secretary TAFT. So far as the Commission was concerned, and so far as I was concerned, that ended the matter of this claim. Thereafter, my recollection is, the President approved the findings of the Commission and my recommendations, but an application was made to him to rehear the matter on the ground that he had not given the

proper day in court to the counsel for the French Panama Canal Company. The matter was referred to the Attorney-General. The Attorney-General has reported adversely to the French Panama Canal Company and has submitted his opinion to the President, who expects to decide the matter in a few days.

What I wish to point out is that since November 15, 1904 (and that was before I assumed control of the railroad company or consulted Mr. Cromwell in an advisory way in respect to canal or railway matters), neither the Commission nor I, who have had charge of the management of the canal construction and the railroad, have had the slightest relation to the decision of the claim of the French Panama Canal Company. So far as either the Commission or I had to do with it, the decision was then adverse and final. I may add that Mr. Cromwell never exchanged one word with me about the claim either before or after I reported adversely on it.

The other suggestion is that because Mr. Cromwell owns 22 per cent, or about \$40,000, of the stock of the ice and electric light company in Panama therefore he has a pecuniary interest that makes it dangerous for him to assist the Secretary of War or the Commission or the Panama Railroad Company officers and directors with his advice upon the matters arising for a decision in the discharge of their duties.

Upon this point all I have to say is that Mr. Cromwell never mentioned the subject of the ice and electric-light enterprise to me or to any of the Commission so far as I have been advised. The person charged with managing the ice company was a Mr. Lundie, an electrical engineer, a man who wrote to me when I was on the Isthmus in November, 1905, objecting to our erecting a government electric-light plant on the Isthmus because it would injure his enterprise. In this letter, in November, 1905, he mentioned who were the stockholders of the company, including Mr. Cromwell. I answered him by stating that the United States could not afford to depend upon private enterprise for its ice and its electric light, such was the magnitude of the work which it had to do there, and, therefore, that a conference with him for the purpose of discussing such an issue was useless. The result was that Mr. Lundie wrote a violently abusive letter about Mr. Shonts, Mr. Stevens, and myself to the President. I need not say that he demonstrated thereby that while Mr. Cromwell might have stock in the enterprise, he had very little to do with its management.

Senator MORGAN. Is that the letter that the President laid before the Congress in his message?

Secretary TAFT. Yes, sir.

THE CIRCUMSTANCES LEADING TO THE SEVERANCE OF MR. WALLACE
FROM THE CANAL ENTERPRISE.

I met Mr. Wallace for the first time in November, 1904, when I was on the Isthmus. I was quite impressed with his earnestness and interest in the work, his ability, his facility of expression, his power of planning ahead, and the experience that he had had on the great Illinois Central system.

I talked with him much about the Commission and the necessity for a change. I invite attention to the letters which Mr. Wallace wrote, all included in the exhibits, in order to show how closely we adhered to every wish that he had expressed in regard to the matter of the reorganization.

Senator MORGAN. What exhibits do you refer to there?

Secretary TAFT. I have a great many of his letters.

Senator MORGAN. They will be put into the record?

Secretary TAFT. Yes; I shall submit them this afternoon. The selection of Mr. Shonts by the President was induced not only by Mr. Shonts's experience and ability as an organizer of constructive enterprises, but also because he was believed to be on friendly terms with Mr. Wallace.

Mr. Wallace came to Washington to assist at the reorganization early in April, 1905. After he had been here a month working with Judge Magoon and Mr. Shonts on the needed changes in the Washington office, and necessary preparations for the Isthmus, reports of a disquieting character as to the conditions on the Isthmus began to come to me. I was anxious that Judge Magoon and Mr. Wallace should then return to the Isthmus. Mr. Wallace, however, requested that he be allowed to take two weeks in Chicago before going back, on personal matters, saying he could unite public business with the main object of his trip. On May 15th or 16th, just before Mr. Wallace sailed, he came to my office with Judge Magoon and others. After a little conversation he asked that the others precede him from the room and he remained for a last word with me alone. He said he was not content to leave without expressing in a personal interview the profound gratitude that he felt to the President and to me for reorganizing the Commission on the lines of the order of April 1. He said he went back to the Isthmus with happiness in his heart and with confidence that the canal would be built and that he would build it. He asked me to convey this message to the President and to assure the President that he could have every confidence in him. I invited his attention to the disquieting rumors as to the condition of the employees on the Isthmus and asked him to devote his chief attention to the reconstruction of buildings for the occupancy of our employees and to making them comfortable.

Before Mr. Wallace sailed he had received letters from Mr. Dauchy and General Davis, which I attach as Exhibit 18, showing a most demoralized condition on the Isthmus. The rainy season had set in and yellow fever, which it was supposed had been stamped out, showed itself in the last week in April, and six cases of fever—all of them employees at work in the canal building—were reported. Mr. Dauchy described the very unsatisfactory condition on the Isthmus, and especially at Culebra, showing that the conditions were due to the result of lack of preparation, and because material and men were wanting. He wrote that the yellow-fever scare had caused great demoralization in the whole personnel. He said that on account of having no lumber he had not been able to push the work of preparing quarters for men; that at that time they were more crowded than at any time since the work started, and that this crowded condition was causing dissatisfaction. He said that he had not the superintendents or foremen or engineers to enable him properly to instruct the men under him, and that without an organization he could not cement the force into a working organization commensurate with the requirements of the work.

General Davis, in his letter to Mr. Wallace under date of May 3, says that there was no head there to command the necessary confidence and respect, and there was a great deal of bickering and fault finding

and scolding among the employees all along the line; that they were now pitching tents in Culebra for the shelter of the United States employees, and the employees occupying the tents were naturally discontented and found fault; that the death of Johnson and West, one the superintendent of construction and the other the auditor, had created a panic and that he supposed a great many men would go back on that week's steamer to the United States. He said:

I think I have never known of an instance where the strong directing hand of a man in power was more necessary than it is here now. Mr. Dauchy does the very best he can, and is patient and painstaking, but he is not regarded as the "head" in the real sense.

In a telegram to me of May 4 General Davis said: "At no time since I have been here has there been so great necessity for presence of strong directing head of canal work, a head recognized by the public and by all as commanding the confidence of the President and Secretary of War. The absence of such a man at this time, in my opinion, is exceedingly detrimental to public interest."

This description of conditions by General Davis and Mr. Dauchy are confirmed by Mr. Wallace in his letter of June 8 (the full text of which I append as Exhibit 19), in which he says:

Upon my arrival on the Isthmus it was needless to say that the entire organization was found in a state of more or less demoralization. At the same time, the spirit of disloyalty mentioned by Mr. Barrett did not exist. The feeling was more one of depression and discouragement.

* * * * *

The dissatisfaction among the men, however, that gave the most anxiety was of the silent, unexpressed nature, which is existing among our loyal and better class of employees. In time this would have resulted in their gradually leaving the Isthmus as they were offered positions in the States, or in taking their leaves of absence in the normal way and not returning, provided they could find any other means of earning their living. Above all was the disadvantage to the work where men were compelled to remain here in order to earn a living, the silent feeling of discouragement.

The American employees were leaving the Isthmus by every steamer. The exodus would have been very much greater but for the fare of \$75 to New York. Employees on leave were given a fare of \$20, but those who left without leave were charged the full fare. The numbers of American employees who left the Isthmus and the employ of the Commission are given, by months, in the following list (see Exhibit No. 20):

April	109
May	150
June	171

The news of depressed and alarming conditions reached the public through the press of this country on every steamer from Panama. For the information of the committee I have had collected, and append as Exhibit No. 21, a number of clippings on this subject from New York and other journals.

While, of course, the President and I were concerned over the situation, we were very hopeful that with the reorganized Commission and the new courage which Mr. Wallace had evidently taken by his trip, and the promotion given him, matters would gradually be straightened out. It was his presence on the Isthmus and his strong hand in coordinating the parts of the machine which under Mr. Dauchy had drifted apart that we were counting on.

Under these circumstances I received with surprise and anxiety the following telegram from Mr. Wallace, dated Panama, June 5, 1905, only a fortnight after his return to the Isthmus:

SECRETARY OF WAR, *Washington*:

Important complicated business matters which can not be arranged by correspondence and which may affect my relations as chief engineer of Commission necessitates immediate return to the United States to confer with you and others. An order from you to return for official consultation will prevent apprehension on the part of employees. Suggest Shonts remain until my arrival. Please answer.

WALLACE.

I thereupon directed the sending of the following cable, indicating the reluctance I felt about granting him permission to leave the Isthmus at that time:

WASHINGTON, *June 6, 1905.*

WALLACE, *Panama*:

Secretary of War and Shonts, in accordance with your request and without knowledge of circumstances that justify, approve your return for consultation with them at Washington.

EDWARDS.

My surprise and feeling of uneasiness were not relieved by receiving about the 15th or 16th of June the letter from Wallace, dated June 8, 1905, already among the appended exhibits, and containing the following:

* * * * *
Since my return I have been most vigorously employed in arranging for the reorganization of the work and in stiffening up the weak points.

In the meantime cables and letters have been received from the States in regard to matters which vitally concern my personal interests, which could not be brought to a consummation before leaving the States.

There are also several matters which it is desirable to discuss with you before your departure for the Philippines, which I do not think it wise to hold until your return, and which can not satisfactorily be handled either by cable or by letter.

While they might be considered largely of a personal nature, any action taken for my personal interest would affect, to a greater or less extent, the work here.

* * * * *
My intention was to make a hurried trip to the States, in order to return here in time to be present at the meeting of the Commission on the 2d of July.

However, it is possible to make such progress in my reorganization work that I believe I can finish everything up and sail for the States on the steamer *Finance*, which will leave here Monday, June 12; and as I have been continuously at work for the Commission without any vacation (having taken practically none when in the States), I respectfully request that I be granted at least six weeks' leave of absence, dating from the completion of the conference with yourself and the chairman of the Commission, or after I have finished such business as I may be called upon to attend to in Washington or New York for the Commission or the Panama Railroad.

In this connection I desire to say that one of the basic conditions made with Admiral Walker in May, 1904, when I considered the proposition to come to Panama, was that I should have at least two months' leave of absence during each year.

The Admiral was disinclined to accept this proposition, but finally stated to me that I could have six weeks in connection with some of my business trips to Washington, and that the six weeks would date from my leaving Washington until again reporting there for duty.

I know of no time during the next year when the work will be in better condition to permit of my absence. It is thoroughly organized, everything possible that can be foreseen provided for, and a feeling of loyalty and enthusiasm now permeates the entire personnel.

On landing in New York, on the 19th or 20th of June, I would like to spend one or two days there on matters connected with the Panama Railroad before I proceed to Washington, when I hope you will be able to give me a personal interview.

This letter certainly furnished but little light on the real state of Mr. Wallace's intentions, except that he wished to be absent from the Isthmus on vacation for July and August, at the very time of all others when he ought to have been there. He had then been just twelve months and a half in the employ of the Commission, of which he had spent nine months on the Isthmus and three and a half in the United States or on the ocean, and part of this three months and a half, he had devoted to matters not governmental. In a day or two I received light in the following letters from Governor Magoon:

[Personal and confidential.]

ISTHMIAN CANAL ZONE,
Executive Office, June 11.

MY DEAR MR. SECRETARY: Mr. Wallace has had two conversations with me of such character that I feel obliged to communicate the substance to you. He says he has received an offer of employment in the States that affords him more pay and better opportunities than his present position. He is going to the States (as you have been advised by cable) to resign as chief engineer, to take effect September 1, but is willing to remain as a member of the Commission. He further wishes to take a vacation until September 1, and prepare his annual report at his home in Chicago, and not return to the Isthmus. "Here ended the first lesson."

I was anxious, of course, to probe the matter further and ascertain if there were anything back of it, and therefore sought another interview the next day, told him of my anxiety as to the situation, and asked if there were anything in his relations with me, personal or official or our relative standing, etc., that was objectionable. He said, "No. The trouble lies in another direction;" and proceeded to object to the requirement that he should remain on the Isthmus except when given permission to leave; to receiving less salary than Shonts; and to being placed in a position subordinate to the chairman, "who was getting the credit of bossing the job."

It was plain, by this time, that there was something deeper yet, and so I asked him if any arrangement could be made that would satisfy him and induce him to remain and he said "there might be, but I don't know." He went on to say that the only thing that would induce him to remain was to make him chairman, combine the two departments of which he and Shonts are the heads, and give him full power over all the work, complete and unrestricted; fix his salary at between \$50,000 and \$60,000, he to come to the Isthmus when he saw fit and depart as his discretion determines. The plan he has in mind is, that he is to be so completely vested with all authority that no one can doubt or question that the entire credit of the enterprise in all branches belongs to him. He said nothing as to his plan being the more efficient, but confined himself to statements that such was what he wanted.

I asked him if he intended to talk to you as frankly and candidly as he did to me. He said he wrote you a letter last March, in which he told you what he wanted done, but his wishes were not carried out; that he made it a rule in dealing with his superiors to let them know what he wanted and "leave it to them." He made a further statement, to which I attached grave significance—that he left the Illinois Central twice without telling them, directly, what he wanted, and was sent for and given three times as much as would have induced him to remain at the time he left.

Evidently he considers himself essential to this enterprise, and, for the immediate present, he is. He has never secured an assistant engineer competent to take his place or keep the work going at a decent pace for sufficient time to enable a new chief engineer to master the situation. His department is not organized, i. e., the machine is not built and therefore can not run itself. I have urged him several times since we came here to appoint some big men in his department and put them at work on his organization; but he said it was difficult for him to secure the men he wanted. The data he has collected is scattered through his files and he said he could incorporate enough of it in his report to enable his successor to understand and utilize the substance of it all. I doubt it.

Speaking of his desire to be the head of the enterprise, he told me that he figured from the first that Admiral Walker would not last more than two years and he had intended to have things in such shape by that time that he would be made chairman; but the old Commission went to pieces too quickly for him. When to the present development is added numerous incidents occurring during the past two months, incidents that appeared to be trivial at the time but now appear important indices, I can not escape the conviction that he is trying to "pull off" a carefully

contrived coup d'etat. I think he expects to go, but to be recalled in the future. *I hope I am doing him a grave injustice*, for personally I like him and our relations have been very pleasant. I can readily understand that from his point of view the action and motive I attribute to him is entirely justifiable. In railroad circles, as on the stock exchange, it is entirely justifiable and even commendable to "squeeze" friend or foe when you have the chance and can profit by it.

That something like this is in his mind is indicated by his telling me when I urged him to have a full and free talk with you that he had thought of going to Shonts and "putting it to him straight." I am very sorry this complication has arisen on the eve of your departure for the Philippines. I had hoped to advise you before you started that everything here was in smooth sailing. It is of course unnecessary for me to say that I have urged upon him every argument I could muster to induce him to maintain the status quo, at least until your return. I have written you thus fully that you may have a few days to turn the matter in your mind before the matter presses for determination.

I have no objection to this letter being read by the President and Mr. Cromwell, but request that no one else be permitted to know of its existence.

Very truly, yours,

CHARLES E. MAGOON.

ISTHMIAN CANAL ZONE,
Executive Office, June 13, 1905.

MY DEAR MR. SECRETARY: I have had another talk with Wallace and am inclined to think I judged him too harshly in concluding that he was attempting to "squeeze" you.

He seems to be fully prepared to quit, but willing to remain upon terms that seem to him justifiable as compensation for the sacrifice he feels he would make in continuing in the public service. There is no difference in its effect on the public service, but there may be considerable difference between the two mental attitudes. You will, however, have opportunity to judge that matter for yourself.

Yours, sincerely,

CHAS. E. MAGOON.

I took these two letters to the President at once. I told him that I thought there must be some mistake. I could not believe that Mr. Wallace, under the circumstances that existed on the Isthmus, with the loyalty and gratitude for the new arrangement he had gone out of his way to express, would thus desert us without notice or time to select a successor. Mr. Wallace's own letter, while it had some ambiguous phrases in it, certainly did not give the impression that he was leaving the Isthmus for the last time with no intention of returning as chief engineer. Yet, of course, Judge Magoon had no motive for misrepresenting what Mr. Wallace had said to him; he had detailed the conversation in Mr. Wallace's words immediately after the conversations.

Assuming the situation to be, however, as Judge Magoon stated it, I said to the President that the departure of Mr. Wallace from the Isthmus would be the most demoralizing thing that could happen in a state of demoralization already existing, that there was a crisis on the Isthmus, and that if Wallace had purposely selected the time when his leaving and desertion would be most injurious to the public interest he could not have succeeded better. For that reason I requested of the President the authority, if Wallace's statement to me was in accord with Magoon's report, that I might dismiss Wallace at once and demand his resignation both as Commissioner and as vice-president and general manager of the railway. I expressed the opinion to the President that it was of the highest importance that we should stop the desertions which were going on upon the Isthmus, and that we

should mark our disapproval of the disloyalty to the job involved in running away from the Isthmus under the circumstances and conditions that prevailed there, especially in him upon whom rested the greatest responsibility. I need hardly say that the President fully concurred in my views and gave the authority which I requested, with the emphasis which such a condition was likely to evoke from him.

In spite of the very conclusive evidence as to Mr. Wallace's state of mind and intentions found in Judge Magoon's letters, I was still not satisfied, and therefore requested Mr. Cromwell, when he returned to New York, to use the Western Union cipher and inquire of Judge Magoon by cable whether he confirmed his letters.

As I was exceedingly busy making ready for my trip to the Philippines, and had an engagement to deliver an address before the Yale Law School on Monday, the 26th, and to attend the Harvard commencement on Wednesday, the 28th of June, at Cambridge, where I was to meet President Roosevelt, it was economy of time for me to have the interview with Mr. Wallace in New York City. I went to New York Saturday afternoon, and met Mr. Cromwell at the Manhattan, when he handed me the following telegram which he had received from Governor Magoon:

[Confidential, Western Union Code.]

PANAMA, June 22, 1905.

CROMWELL, New York:

As result of all interviews, I believe he retires in good faith, prompted by attractiveness of new position, salary, residence in New York, business connection with financial magnates, opportunity to demonstrate administrative ability instead of working at construction exclusively; also fear of yellow fever on the part of himself and wife. He desires to become an engineer member of Commission, basing it on desire to assist and prevent embarrassment if any question should arise direct, he said. Can not say whether he would remain in any other capacity nor on what terms until after (he has) interview with New York parties, but (he) will not continue as construction engineer merely. (His) wife told intimate friends here they would not return. They have taken or sold all of their belongings.

My impression, based on interviews and (one word illegible), is that personal advantage and (word illegible) overcome public consideration involved; that he is not attempting a squeeze, but honestly thinks he is entitled to supreme place and power. (He is) unwilling to remain without it and not particularly anxious to remain without (with ?) it provided new position is what he considers it. He asked me to telegraph Secretary (advising) his retention on Commission as one of four engineer members. I will comply, believing retention advisable.

MAGOON.

Mr. Schwerin came in to see me in regard to the Pacific mail contract with the Panama Railroad. After Mr. Schwerin left, Mr. Wallace and his son came in. After some little conversation young Mr. Wallace withdrew. I recollect telling Mr. Cromwell in Mr. Wallace's hearing that I desired him to stay.

I did this for the reason that I wanted a witness to the interview. I knew it would be of a serious character, and I had asked Mr. Cromwell to make notes of the interview so that I might take those notes to the President and submit to him the condition of things as it was revealed by what Mr. Wallace had to say. After the interview with Mr. Wallace I had to hurry to catch the train for New Haven. Mr. Shonts, who had come to the hotel after the interview, traveled with me to Bridgeport, in the vicinity of which he was staying for the summer. As the result of the interview with Mr. Wallace, I directed Mr. Shonts to do his best to find another engineer at once.

I met the President at Cambridge and gave him notes of the interview, and said to him that the correspondents of the newspapers were pressing me for the facts in regard to Mr. Wallace's leaving; that many different reasons were being given, and that the facts unexplained could not but have a most detrimental effect upon the discipline and esprit of all our employees on the Isthmus. In view of this, the President was strongly of opinion—and I agreed with him—that the interview ought to be published, for the purpose of discouraging in the future such an act of disloyalty as that of which we both considered Mr. Wallace guilty. Accordingly I returned to Washington and prepared the published statement.

The report of the interview of course is not verbatim, but it is as nearly accurate as it is possible without stenographic notes to make it. Mr. Wallace says that he did not state that he had already accepted the employment which had been offered him. My recollection is quite distinct that he did, but whether he did or not he certainly gave me to understand with emphasis that he proposed to accept it, and that he would not go back to the Isthmus to take charge of the work as chief engineer. He intended to remain in New York. His new employment required it, and he would not go back to the Isthmus.

At the time that I gave out for publication the interview I did not include the remarks of Mr. Wallace on general conditions, but I deemed it wise, for purposes of record, that a statement should be made, while the interview was fresh in our minds, of just what was said by Mr. Wallace with reference to conditions, and I append, as Exhibit 22, both the statement as given out and the statement dictated by me of the remainder of the interview.

Mr. Wallace says that I was very angry at the interview. I can not and do not deny that I was deeply indignant at what I regarded as his desertion of the Government work at the most critical time in its history, but what I said was not the result of a hasty outburst of anger. It was the deliberate opinion formed tentatively after receiving Judge Magoon's letters and telegram, and confirmed by all Mr. Wallace's statements in the interview.

I do not stop to discuss Mr. Wallace's legal right to quit under his contract. That is aside from the real point. Mr. Wallace knew that a crisis was at hand in the business of the Government at the Isthmus and that his desertion at that time might mean disaster. He was under the highest moral obligation not to leave his post until he had given the Government an ample opportunity to replace him. His obligation in this regard was commensurate with his great responsibility and the difficulty of suddenly finding a substitute for him. Mr. Wallace seems to recognize some such obligation. He says in his testimony that it was his undoubted personal right to resign whenever he thought it necessary to do so, *provided, of course, that he took abundant care that the work in his charge would suffer no harm by reason of his resignation.* His justification for his course is contained in his letter of June 8, already quoted, in which he says:

I know of no time during the next year when the work will be in better condition to permit my absence. It is thoroughly organized, everything possible that can be foreseen provided for, and a feeling of loyalty and enthusiasm now permeates the entire personnel.

Again, he said in the interview which he gave out in New York June 30, and which is quoted in his evidence, in regard to the situation at Panama:

At no time during the progress of the work could my relations have been severed more opportunely than now and with less damage to the work. A complete organization of departments and bureaus has been effected. Mr. W. E. Dauchy, a gentleman of high engineering attainments, who had been chief engineer of the Chicago, Rock Island and Pacific Railroad Company and who had occupied the position of division engineer in charge of the Culebra division, was, upon my leaving the Isthmus, placed in charge of the work as acting chief engineer, he having occupied a similar position during my absence from the Isthmus at the call of the Secretary during the month of April and having satisfactorily conducted the work through the demoralization attendant upon the change in organization. The only work which can be performed, until after Congress at its next session shall take some decided action, is the gradual increase in the organization and the addition of units of machinery along a well-defined plan, which Mr. Dauchy thoroughly understood.

These statements are untrue. Upon this point Judge Magoon, who was a member of the executive committee, which had to approve Mr. Wallace's plan of reorganization, says in his letter of June 11 already quoted:

Evidently he considers himself essential to this enterprise and for the immediate present he is. He has never secured an assistant engineer competent to take his place or keep the work going at a decent pace for sufficient time to enable a new chief engineer to master the situation. His department is not organized—i. e., the machine is not built and therefore can not run itself.

It is true that Mr. Wallace raised the wages of all the employees, black and white, on the Isthmus, and this doubtless gave some satisfaction, but in no way stopped the panic or checked the demoralization. That he perfected the organization in the time between the 24th of May, when he reached the Isthmus, and the 16th of June, when he left there, is without foundation. Mr. Wallace and Governor Magoon were the majority of the executive committee, and at the meeting of June 14, 1905, two days before Mr. Wallace left the Isthmus, he submitted the organization of the department of construction and engineering, effective June 1, 1905, which I append as Exhibit 23.

In this plan of organization provision was made for seventeen constructing engineers, who were the chief engineer, the assistant chief engineer, the principal assistant engineer, five division engineers, five assistant division engineers, and four resident engineers, and of these the positions of assistant chief engineer, of principal assistant engineer, three division engineers, and five assistant division engineers, or ten in all, were vacant. Mr. Dauchy in this plan was assigned temporarily to fill three division engineerhips and in addition became acting chief engineer when Mr. Wallace left. Mr. Maltby was assigned temporarily to two assistant engineerhips. The other vacancies were not even temporarily filled.

The four positions created by this plan, of superintendents of transportation, of excavation, of mining, and of dumps at Culebra, the only division where such positions were provided, were all vacant.

Mr. A. M. Burt, supervising architect, who was to have charge of the most important work that the Commission had on hand, to wit, that of constructing buildings for their laborers, had been a draftsman in the office of Mr. Johnson, the previous supervising architect, who had died of yellow fever. He was promoted by Mr. Wallace to the position of the chief of the bureau in June, and when Mr. Stevens

went to the Isthmus he found that he had little or no experience in construction and was obliged to relieve him. Mr. Prescott, who was the superintendent of the railroad, had been an assistant superintendent under Colonel Shaler and was made superintendent under Mr. Wallace. He was found by Mr. Stevens unequal to the task, as was perfectly apparent from the bad state of congestion that existed on the Panama Railroad at this time.

But Mr. Wallace says that Mr. Dauchy was there, and quite as competent as he was, as acting chief engineer, to carry on the work. I need only refer to General Davis's comment on the condition of things when Mr. Dauchy was in charge to refute Mr. Wallace's statement upon this subject. More than this, Mr. Wallace contradicts himself by his conduct in respect to Mr. Dauchy, for he says in his letter of June 8, already an exhibit:

The greatest handicap at this time is the lack of several high-class assistants. All the men here are loyal and perfectly competent in the handling of their several divisions or bureaus as the work now exists, but, in view of the large amount of organization and expansive work, several high-salaried men are needed who should be personally selected by the chief engineer. Since my original appointment as chief engineer this matter has been given constant thought, and a great many men considered for the more important positions that have not yet been filled, particularly that of assistant chief engineer.

Refusal after refusal has been met with, although as high as \$15,000 per annum has been offered in a tentative way. This position is a most difficult one to fill, probably much more so than it would be to select a successor to the chief engineer, as his assistant must necessarily have ability fully equal to that of his superior, and be perfectly competent to step into his place should ill health, inclination, or any other reason cause the chief engineer to leave the service. It is absolutely necessary that a man of this character should be secured without further delay, and that he be personally selected by and be a man in whom the chief engineer has perfect confidence. It will also be necessary to employ other high-class men in the immediate future. It was the intention of the chief engineer to secure these men on his recent return to the United States after personal conferences and full investigation of their records, but the important matters connected with the reorganization of the Commission and the Panama Railroad have prevented; and on account of the demoralization which had occurred during my absence, due to the deaths of Messrs. Johnston and West, and the illness of General Davis, and the general unsettled state of affairs existing on the Isthmus, owing to the reorganization of the Commission, it appeared highly desirable for me to return to Panama than to allow the question of personnel to be taken up at a later date.

If it was true that Mr. Dauchy was a competent man to carry on the work of organization and expansion of the organization, and keep a firm hand and overcome the panic and the confusion that was existing on the Isthmus, Mr. Wallace would have made him his assistant chief engineer, or principal assistant engineer, two officials provided for in his plan of organization. Instead of that, in his elaborate plan of organization, he retained him merely as resident engineer at Culebra. Nothing could more emphatically testify to the fact that Mr. Wallace did not regard Mr. Dauchy as equal to the position in which he left him.

Again, if this was the most opportune time, as Mr. Wallace says, that would be likely to come in the next year for him to leave the Isthmus, why was it necessary for him in his telegram to me to ask that he be ordered from the Isthmus? He answers this in his letter of June 8, which I have already quoted above. He says:

The suggested order to return to the United States for a conference with you, prior to your leaving for the Philippines, was to cause a better effect on the men here than if they understood that I had returned of my own volition, as it would be natural to suppose that you might desire a personal conference with me in relation to the work here before your departure for a considerable absence from the country.

In other words, he wished me to enable him to present to the employees and workmen on the Isthmus a fictitious reason for his leaving the Isthmus. Why did he wish it to appear that he was not leaving the Isthmus at his own volition? Only one answer can be made to this, and that is that he knew that his leaving the Isthmus of his own volition would only add to the panic and the demoralization which existed on the Isthmus when he did leave. The truth was that the yellow-fever panic was at its height when he left the Isthmus; the number of cases, the number of deaths, and the number who ran away from the Isthmus on that account were highest in June when Mr. Wallace left.

Mr. Wallace left Mr. Dauchy with final authority not only as chief engineer, but also in the running of the railroad, for by a special order he placed Mr. Prescott under Mr. Dauchy, with the somewhat useless provision that if Mr. Prescott did not agree with Mr. Dauchy he might appeal to the vice-president and general manager, Mr. Wallace, in the United States. I append hereto, as Exhibit 24, the order which he left on this subject. Now, the fact was that Mr. Dauchy, so far as appears, had never had any experience in managing and running a railroad. He was simply a railroad engineer. Mr. Prescott had shown himself to be entirely unable to cope with the congestion which then existed on the Isthmus, and which was likely to become a great deal more severe. Because of the reorganization, and through the efforts of Mr. Shonts and Mr. Wallace, and the new blood which was brought into the organization, the material, machinery, and lumber, for which requisitions had been so long delayed in filling, were now all on the move to the Isthmus, and Mr. Wallace knew that within the next succeeding six weeks or two months an enormous amount of material, machinery, and lumber must arrive on the Isthmus and must be disposed of and must be put into constructive work if the organization was to be made effective at all. Indeed, it had already begun to arrive. The increased congestion came, and there was great difficulty in securing delivery from the ships by the railway of the necessary lumber for the long-delayed construction by which roofs were to be put over our employees and laborers. I append official statement of material and machinery arriving on Isthmus, May, June, July, and August, 1905; marked Exhibit No. 24½.

Then there were coming a great many additions to the force. By reference to the exhibit already put in it will be found that in May there were 1,753 white employees on the Isthmus, which was reduced by the last day of June to 1,641, but that in July this was increased to 2,402, and in August to 2,695, or more than 1,000 in two months. In June the number of colored employees was 8,117, which increased in July by 1,736 to 9,855. In other words, in white and black there was an increase within the two months next succeeding Mr. Wallace's departure of nearly 3,000 employees. It has been seen from General Davis's report and Mr. Dauchy's report how little accommodation there was for them on the Isthmus. There were 2,000 houses on the Isthmus left by the French suitable and needed for occupancy by our employees if reconstructed and repaired. Mr. Wallace had succeeded in reconstructing or repairing about 350 when he left. The testimony of Governor Magoon and of Mr. Shonts shows the inadequate provision there was for the food. I commend to you Governor Magoon's report of conditions on the Isthmus at that time, made March 30, 1906, and filed as Exhibit 25.

The duty of the hour was to infuse esprit de corps into a frightened and stampeded force of employees, to house and feed an influx of 3,000 new employees, to take care of and distribute properly over the Isthmus a great amount of machinery and construction material, to clear an inadequate railway of greatly congested commercial business, and to perfect an organization with not half the needed leading assistants. This was the time which Mr. Wallace selected to retire for a vacation to study plans. The post of danger and responsibility and honor under such conditions was on the Isthmus, and it was no time to turn things over to a subordinate. In the letter of March 15 which Mr. Wallace wrote me, and which I have already introduced, he uses the expression "I prefer to remain on the firing line," indicating at that time, when he had no thought of leaving, where the post of importance was for the chief engineer.

I submit to the committee, in view of the facts that I have given, there is not the slightest support in this record for the astounding statement by Mr. Wallace which he made, first in his letter of June 8, again in the statement which he made to the press on July 30, and again in his evidence before this committee, that there was no time in the history of the construction of the canal when the chief engineer might better be spared from the Isthmus than when he left, on the 16th of June last.

In Mr. Wallace's evidence before the committee he does admit that there was demoralization after he left, but he says that my criticism of him at our interview which, with the approval of the President, I published, created the demoralization. I quote from his evidence:

And when Mr. Stevens arrived on the Isthmus, about the 1st of August, I have been informed that he found things in a very demoralized condition. Now, that was not due to my resignation. It was due to the treatment when I resigned, and also resulted from the fact that as the men that I left on that Isthmus had seen their chief discredited in a way, and knew that a successor was to fill his position that had been selected with an idea that everything that I had done was subject to criticism, there was not a man there that felt his place was secure, and the result was there was naturally complete demoralization.

Upon this point, Governor Magoon says in his report of March 20, 1906:

The difficulties and discomforts of the situation were many and distressing. Everyone felt that Wallace had abandoned the situation, and that his action countenanced similar action on the part of others, and that the inevitable result would be that imperative action by the executive committee, which should be had at once, must of necessity be long delayed and probably deferred until such time as to make the action unavailing. Had means of departure from the Isthmus been immediately available, I believe we would have had both a panic and a rout. Before it was possible for any considerable number of our people to leave the Isthmus, the papers arrived containing the expression of views made by Secretary Taft at the time of his interview with Mr. Wallace in New York. The effect of reading this published statement was immediate, far-reaching, and beneficial.

The ordinary comment was, "Well, that ought to stop the cold-footed brigade," or some expression of like tenor. It brought to the attention of all of us what had been lost sight of in the general discomfort—that there was something more involved in the enterprise in which we were engaged than our personal comfort or personal advantage; it aroused the spirit which is so important to armies or other large bodies of men engaged in a common endeavor that they owed allegiance to the cause, and having once entered upon the accomplishment of a purpose they must of necessity sacrifice personal advantage to the public enterprise. There were many evidences that came to my knowledge and to my personal observation that the effect of the publications of the Secretary's remarks promoted, if it did not create, in the minds of the Americans on the Isthmus the sentiment to which I have referred.

Mr. Wallace deserted the Government at a time when his presence on the Isthmus was indispensable, and instead of making abundant provision, as he says, for the preservation of the interests of the Government, he utterly ignored those interests and selected a time for his departure that could not have been more disastrous. The great good fortune which we had in happening within three days upon Mr. Stevens and securing his acceptance was not due in any way to Mr. Wallace's intervention, and the dangers which were averted by this piece of good luck are not due in the slightest degree to Mr. Wallace's care or desire to save the interests of his employer which he had thus deserted.

It is said that I neglected the interests of the United States by dismissing Mr. Wallace and not availing myself of his offer to remain in an advisory capacity and give us the benefit of the studies which he had never committed to paper at that time, but which he proposed to commit to paper in the two months of contemplative retirement. I was not impressed with that suggestion at the time, and have not been since. However valuable his report, its loss would never have equaled the detriment to the discipline and esprit of the service, had he been permitted to retire from the post of danger and responsibility in such an emergency and yet thereafter to enjoy the prestige of association with the canal enterprise. But more than this, he had advised me in February that he had committed his views to a report. In his letter of February 23, already among the exhibits, he wrote me on the subject of his report as follows:

In regard to canal matters, I presume by the time this reaches you the Isthmian Canal Commission will have acted upon the recommendations contained in the report of the engineering committee, consisting of Professor Burr, Mr. Parsons, and General Davis, which was recently in session for three weeks on the Isthmus. I placed at the disposal of this committee the results of my studies during the eight months I have held the position of chief engineer of this work, as contained in my report to the Commission dated February 1.

If the Commission shall have taken favorable action on the engineering committee's report by the time you receive this letter, the principal engineering questions requiring expert council will have been settled. Those that remain for further consideration will be connected with the details of the Gamboa dam and spillway, and the utilization of this dam for the generation of electrical power; but all of the problems in reference to the general plan and design of the canal itself will have been disposed of, except those which will of necessity have to be decided by the chief engineer on the ground from time to time as they may arise.

The measures which were immediately taken to make up for Mr. Wallace's retirement are set forth in Exhibit 26, hereto appended. The members of the Canal Commission and Mr. Stevens were able to furnish the consulting board with the needed data.

Mr. Wallace said in his defense published June 30, and in his evidence, that he was prevented by the presence of Mr. Cromwell from telling me all the real reasons for his leaving the office of chief engineer and refusing to go back to the Isthmus, and so contented himself with stating only one, to wit, that he had had a better offer. But in a letter which has been published in full at page —, which he wrote to Mr. Shonts on June 26, the day after the Manhattan Hotel interview, but before its publication, he says:

* * * The business proposition that I have now under consideration is of such an important character and opens out such a wide field for future prosperity to me that I can not possibly see how I would be justified in declining it. My family and those of my friends with whom I have consulted with regard to it have been absolutely a unit in urging me to form the new connection.

There were so many sides to this matter that I thought it best for the Secretary of War and myself to discuss it in all its features and at length. I also did not feel that it would be fair to the Secretary to let the matter go over until after he had left the country.

Of course, both of these statements can not be true.

Again, he says that one of his reasons which he did not tell me after leaving the Isthmus was, in effect, that he felt that he could not get along with Mr. Shonts; that Mr. Shonts was incompetent, and that he felt certain that in the future there would be a break between them, and that it was wise for him to leave in advance of that. Yet in this same letter of June 26th he said to Mr. Shonts:

I desire to express to you my warm personal regard, and my thanks for the kind and generous way in which you have treated me in all matters connected with the work, and to assure you that your personality had nothing whatever to do with the step that I am taking; in fact, in considering the questions from both sides, one of the strong inducements for me to remain was your pleasant personality and our warm personal friendship.

On the other hand, the probability of your being disconnected with this work, either in the near or immediate future, which seemed to come to me intuitively, and the probability of the position being filled by some men with whom I could not harmoniously act, was one of the strong inducements that controlled me.

Here again Mr. Wallace is refuted out of his own mouth.

Again, Mr. Wallace says that he understood that Mr. Shonts had had the assurance that he would have a free hand in the management of matters. Doubtless it was true that there was given to Mr. Shonts general executive control of all the affairs of the Commission. This was quite in accord with the order of April 1, in which it was provided with respect to the chairman of the Commission that, in addition to having charge of the fiscal affairs of the Commission, the purchase and delivery of all materials and supplies, the accounts, bookkeeping and audits, and the commercial operations in the United States of the Panama Railroad and steamship lines, that he should have charge of the general concerns of the Commission, subject to the supervision and direction of the Secretary of War, and this was in accord with the recommendation of Mr. Wallace of December 5, 1904, already included in the exhibits, in which he suggested that the chairman should have general charge of the executive functions of the Commission, and should be also a committee on purchases of materials and supplies.

Again, Mr. Wallace says that another reason for his leaving the canal service was because of the all-pervasive influence of Mr. Cromwell. Neither in his interviews with Judge Magoon nor in his published statement of June 30th, nor in his letter to Mr. Shonts did he mention any such ground. This he advanced for the first time when he came before this committee. The instance of Mr. Cromwell's pervasive influence, which Mr. Wallace dwells upon as pointing to disaster, was the appointment by the executive committee of the railroad company of Mr. Wallace as superintendent of the railway in March, 1905. I have explained how this appointment came to be made and that it was at my instance because of Wallace's suggestion to me that it was necessary for him to control the operations of the railroad. Mr. Cromwell has handed me the letter which Mr. Wallace wrote him in answer to his dispatch announcing that he had been appointed superintendent of the railroad, and it is as follows:

ISTHMIAN CANAL COMMISSION,
Panama, March 15, 1905.

John F. Wallace, Chief Engineer. Personal.

Mr. WILLIAM N. CROMWELL,
Attorney, Panama Railroad Company, New York City.

MY DEAR MR. CROMWELL: I am in receipt of your cable.

What did I ever do to you that would cause you to try to get even by saddling the Panama Railroad on me? I never harmed you in word, look, or thought, and always had the very kindest feelings for you. In common with other American citizens I have always appreciated the great service which you performed in making the construction of the Panama Canal by Americans possible. And to think that underneath that most agreeable countenance of yours there should lurk a malicious heart!

It is such things as these that undermines one's faith in Humanity and causes one to take a pessimistic view of life, from which recovery is impossible. Time, the healer of all things, may eventually enable me to forgive you. Your present personal safety, however, depends solely on the 2,000 miles of rolling ocean lying between New York and Colon.

I suppose some day if you continue to be controlled by malicious motives you will see that the title is changed to one more in accord with what I have been accustomed, so that my railroad friends will not consider me as being promoted down the ladder.

When a man makes his first misstep, like you have, there is no telling to what extent he may ultimately be induced to go.

Yours, truly,

JOHN F. WALLACE.

Mrs. Wallace desires to be remembered to you.

The jocular and friendly tone of this letter does not indicate that the writer suspected disaster from his correspondent at that time.

Mr. Wallace says that while he approved of the plan of reorganization and expressed his approval of it, it was not until he got aboard ship and was on his way down to the Isthmus that, in thinking over matters, he reached his final conclusion that he would resign for one reason among others that Cromwell was a dangerous man and would lead the Canal enterprise to disaster. Compare this with what he wrote to Mr. Cromwell two days after he had landed on the Isthmus:

ISTHMIAN CANAL COMMISSION,
Panama, May 26, 1905.

John F. Wallace, Chief Engineer.

Mr. WILLIAM NELSON CROMWELL,
49 Wall Street, New York.

MY DEAR MR. CROMWELL: During my restful voyage to the Isthmus on the *Segurantha*, while mulling over various matters connected with our work, my mind repeatedly returned to the words of advice and counsel which I received from you, particularly the conversation which we had at your house, where Mrs. Cromwell and yourself so kindly entertained us the night before our departure.

The more thought I give the matter the more I am impressed with your words of wisdom, and it is needless for me to say that I will endeavor to carry out the policy outlined.

In looking back over the events of the last few months, I become more and more impressed with the wisdom underlying the action of the President and the Secretary of War, as well as with the wisdom of their "privy counsel" and the tactful manner in which matters have been guided through the troubled waters of the sea of complication which has surrounded the situation.

While my own manners and methods are, as you know, blunt and direct, my deficiencies in this direction only serve to enhance the appreciation I have of the skilled and polished diplomat who has made this great work a possibility, and whose thoughtful care and guiding hand will be most important factors in the ultimate success of the enterprise.

In closing, permit me, my dear Mr. Cromwell, "to lift my hat to you."

Sincerely, yours,

JOHN F. WALLACE.

Senator MORGAN. Did you show that letter of Magoon's to Cromwell before Mr. Wallace arrived from the Isthmus?

Secretary TAFT. My recollection is that I did, sir.

These letters seriously affect the credibility of Mr. Wallace's testimony before this committee as to why he deserted the post of danger at the Isthmus and are enough in themselves to show that the basis of my criticism of him at the Manhattan Hotel was accurate. The reasons which Mr. Wallace has now given in his evidence for his action are mere afterthoughts; they were not present in his mind at the interview at the Manhattan Hotel, and they never were the real reasons for his action.

It happened, as I have already said, that by the greatest good fortune, on behalf of the Philippine government I had employed Mr. John. F. Stevens as consulting engineer to supervise the construction of railroads in the Philippines. Mr. Stevens had gone west to Chicago to make ready to go with the Philippine party to Manila. As soon as it was decided that Mr. Wallace would not continue as chief engineer I directed Mr. Shonts to make inquiry everywhere in regard to Mr. Stevens's qualifications as chief constructive engineer to build the canal. To my great relief the answers procured within two days were most satisfactory, and then the question was, Would Mr. Stevens accept? Mr. Stevens took time to consider, consulted Mrs. Stevens, and finally consented, at a salary of \$30,000, to accept the responsible office. In this most remarkable way we succeeded in obtaining one of the very few men in this country capable of performing the task, although we had but two or three days in which to do it. Had we been as unfortunate in selecting a chief engineer for the work as Mr. Wallace was in securing his two chief assistant engineers we should have been delayed more than a year in finding the proper man.

Mr. James J. Hill, probably the greatest American railroad constructor, has told me that he has known Mr. Stevens for seventeen years, and that if we had searched the country over and every competent person had been willing to accept we could not have obtained a man better adapted to the peculiar work of building the canal than Mr. Stevens. Everything that Mr. Stevens has done since he has been in the employ of the Commission as chief engineer justifies this estimate of Mr. Hill, and I am sincerely thankful that at a time when everything seemed most dark and discouraging in the construction of the canal, and when the climax of trouble was reached in the retirement of Mr. Wallace, we were able to secure Mr. Stevens.

THE MARKEL CONTRACT.

Everything with respect to the Markel contract occurred while I was in the Philippines, except the action on it by the railroad directory, which occurred while I was making my trip to the Isthmus in November, 1905. In my letter transmitting the annual report of the Commission I discussed the whole subject and have nothing to add to it, except to say that I am strongly convinced by the evidence that Mr. Shonts acted in the utmost good faith and in the earnest desire to secure the best method of feeding the employees on the Isthmus. Mr. Markel struck me as a man of directness and simplicity and one who was willing to do the fair thing.

It is a mistake to suppose that under the original contract there was any power of absolute cancellation by the Government. The power cancellation was conditioned on Markel's failure to satisfy the gen-

eral manager of the railroad with the work which he did under the contract, and it is well-established law that the general manager would in expressing his satisfaction or dissatisfaction be obliged to exercise good faith. To substitute for such a cancellation clause without any consideration a clause which gave the absolute right on the part of the Government of cancelling it any time without making compensation for the contractor's outlay and time then incurred, would have been a most inequitable arrangement, and I am sure that the committee will conclude when it takes all of the circumstances into consideration that the action of the President in approving the payment to Markel of a reasonable amount for his expenses and the time he consumed and the trouble to which he was put, was not only just but completely within the President's discretion, as the Attorney General has held.

Senator MORGAN. That was all done by the board of directors of the railroad, was it not?

Secretary TAFT. Yes, sir; but subsequently examined by me, and approved by me in the letter of transmittal.

THE REVOCABLE LICENSE TO THE UNION OIL COMPANY FOR THE CONSTRUCTION OF A PIPE LINE FROM PANAMA TO COLON.

I observe that there has been considerable discussion before this committee of the propriety of the action of the President, taken on my recommendation, in granting a revocable license to the Union Oil Company of California to lay a pipe line from Panama to Colon for the conveyance of crude oil from oil steamers on the Pacific to oil steamers on the Atlantic. I append as Exhibit 27 the entire correspondence on the subject, and shall state the matter as succinctly as I can.

The Union Oil Company's president applied to me for a revocable license to construct the pipe line across the Isthmus. He stated that they were an independent oil company and had no association whatever with the Standard Oil Company; he said they had extensive oil fields in California from which they obtained an excellent quality of crude oil, and that they desired to furnish this oil to the Commission for use in its work on the Isthmus, but that they also and chiefly desired a pipe line across the Isthmus, by which they might transport the oil to New York to refineries about to be constructed, so that they might compete with the Standard Oil Company. I said to them that I could not discuss with them such a proposition unless they had been able to procure from the Panamanian authorities a revocable license for the same thing. At the same time they referred me to Mr. Morton, then Secretary of the Navy, and also to Mr. Metcalf, Secretary of Commerce and Labor, both of whom said they knew the Union Oil Company to be a reputable concern, with capital sufficient to carry out its obligations. I had other assurances from reputable lawyers and business men from San Francisco. In a short time the president of the oil company came to me and presented a license issued to him by the Panamanian Government for the construction of a refining plant in Panama, with a branch at Colon, and a license to construct a pipe line outside of the Zone across the Isthmus. This, he said, would entail great expense and make a very roundabout course, and said he preferred the Zone if we could grant the license. I took the matter to the President and

the Cabinet, and it was decided that a revocable nonexclusive license for a rental of \$500 a month might well be granted in the public interest under the conditions which are mentioned in the license, to wit, that the company should furnish oil at the maximum price of 90 cents a barrel at any time when the Commission demanded it; that it would lay its pipe along lines fixed by the chief engineer and that it should move its pipe at any time at the direction of the chief engineer, and that it should move it entirely at the direction of the Commission. At a later date I had a letter from Mr. Lindon W. Bates, representing some Texas oil fields, in which he said he wished to be considered as a bidder for the sale of oil, and to know whether an advertisement would be issued for this purpose inviting competition. I told him what had been done and said to him that we were not now asking for bids on oil, but that in the future it was very probable we should need oil, and that in the meantime if anybody desired to exercise the same privilege which had been granted to the Union Oil Company, for the construction of a pipe line across the Isthmus, it would be granted under exactly the same conditions imposed upon the Union Oil Company. This was some three months ago and I have not heard from Mr. Bates since. Senator McCumber, of North Dakota, wrote me a letter inquiring into the subject of the oil pipe license on the Isthmus, and I sent him all the papers, including the license and the correspondence that I had had with the Union Oil Company and with Mr. Lindon W. Bates. Since that time I have had an application from two oil companies, said to be associated with the Standard Oil Company, in which they requested that the pipe line of the Union Oil Company be made a common carrier. I wrote a letter to the Union Oil Company and asked whether this could be done, and they objected to it on the ground that they had oil enough to use the pipe themselves continuously, and that they did not care to injure the quality of their oil by carrying out such a plan. I advised the agent of the two oil companies making the latest application that I would consider favorably an application on their part to construct a pipe line across the Isthmus, and would allow them, if they desired to do so, to use it as a common carrier at rates to be fixed with the Secretary of War. This I did after conferences with the President and the Cabinet. I have heard nothing from them since that time. Mr. Stevens advised me that there was plenty of room for half a dozen pipe lines across the Isthmus and that they would not interfere with his work at all if he had the right to say where they should go. My idea has been that this would not only tend to introduce competition into the oil business in the East, but also that when the work on the Isthmus had reached a greater state of development than it now is in, it would probably be possible for us to use oil much more economically than coal, and that with two or three pipe lines we could succeed in getting oil at a very reasonable rate. There is absolutely no preference to anybody in this arrangement. The Union Oil Company is going ahead to build its pipe line and shows the genuineness of the offer by the promptness with which it has complied with the conditions of the revocable license. If anybody else desires the same privilege, it is open to him. When the Government comes to buy oil it will advertise for bids and buy it from the bidder who will deliver his oil at the cheapest rate whether by pipe line or otherwise.

THE QUESTION OF LABOR.

With deference to the opinion of men much more experienced in the matter than I, I venture to say that we shall have to build the canal with tropical negro labor, expensive as it is. It may be that we shall secure Spaniards or other white men who are able to withstand the tropical sun, but at present I see but little prospect of it.

Chinamen do not make better laborers than other people when imported without their bosses or No. 1 men who have absolute control over them. They have been tried on the Isthmus before, and showed themselves quite subject to disease and also to discouragement leading to suicide. The negro labor of the West Indies is inexhaustible so far as our demands go, and it seems to me that we must rely on training them, eliminating the poor and rewarding the more industrious and competent. I do not think that Mr. Shonts and Mr. Stevens agree with me in this, and I am quite willing to follow them in any experiment within the law which will lead to a different result from that I anticipate. But this is my present judgment.

SHALL THE CANAL BE BUILT BY CONTRACT?

Of course the canal ought to be built by contract if it can be so built, and I think every one who knows about the situation believes that ultimately it will be possible in the interests of the Government to make proper contracts; but I beg the committee in the discussion of this subject to bear in mind that at present it is utterly impossible to frame a law which shall be of any assistance in furthering the construction of the canal by contract. The Government is bound to proceed with construction for some time in order that it may itself learn the cost of doing work under the conditions that exist on the Isthmus, and in order that contractors may learn from the actual conditions the prices which they can afford to bid for the work to be done. Mr. Stevens told me that he thought it might require a year before all the plans and specifications for the work could be concluded.

He is now almost ready to begin work on the construction of the canal as soon as its type is determined, and the making of plans and specifications would not interfere at all with his proceeding upon the work, which does not need the completion of plans and specifications to begin and continue it.

Certainly a year, and probably more, must elapse before the time arrives in which invitations for bids should be prepared, and then six months or even longer time should be given, in order that possible bidders may have the opportunity to examine the Isthmus and make sure of the work they will have to do. If bids were opened now, bidders would be in the dark, and the result would be much higher prices because of the large element of risk due to lack of knowledge which would enter into the fixing of every bid, and thereby increase it largely. There is not the slightest disposition on the part of anyone for the Government itself to build the canal. It will be much better to have the Government make the contracts and then use the chief engineer and such subordinates as may be necessary to supervise the work and see that the contracts are properly performed and their terms complied with. But there are many difficult questions to be settled as to the way in which such contracts ought to be let, whether the work ought to be

divided, or whether the contract ought to be let as a whole. The Government would of course rent its plant to the successful bidder, and probably would have to turn over the railroad to him to run, complying with the charter as to commercial business. The necessity for the use of the railroad in the construction of the canal and doing the work which will have to be done by contract may lead to a unit contract, for it is difficult to see how different contractors spread along the axis of the canal route could all control and make use of the railroad without confusion and conflict.

CONCLUSION.

I have now covered the subjects which I noted for discussion, and merely wish to close my statement as I began it, with urging the committee to as speedy action as possible consistent with the discharge of its responsible duty in selecting the type of the canal. The law now fixes what that type is. If the committee abides by the law as to what that type shall be, well and good, but if it desires to see the Congress reverse its past action in this regard, then, on behalf of the President and the Administration and the Canal Commission, I earnestly ask for an early decision.

In this very long paper I have attempted to review the important questions which seem to have occupied the attention of the committee in its very patient and thorough examination. Had our foresight been as clear and wise as our retrospect may now be comprehensive and detailed, we might have avoided a number of mistakes. We have taken about two years to make the preparations necessary to begin the work of excavation. Those preparations have involved a great deal of preliminary construction and a great deal of persistent effort to make the Isthmus a healthy place in which our officers, employees, and laborers may live and work. There have been a great many difficulties to overcome in effecting a proper organization. As this is a governmental work and as every member of the public is entitled to know how it progresses, it has been subjected to a great deal of criticism, both just and unjust. It is impossible to compare the number of mistakes made in such preparation and organization with the number of mistakes that would have been made under private organization, for the reason that private corporate organization is not subjected to the fierce light that beats on a Government enterprise. The agents of a corporation are not held up to public obloquy by writers in the public press who can make but partial investigation into the facts and are consciously or unconsciously anxious to exaggerate and make sensational the faults of public servants. This one circumstance of the injustice and unfairness of public criticism through the press creates reluctance on the part of competent men to accept positions of responsibility in such an enterprise. In spite, however, of all the difficulties, I feel confident, from the reports which come to me, that everything on the Isthmus under the most efficient administration of Mr. Shonts, Governor Magoon, and, most of all, Mr. Stevens, is in a condition that ought to commend itself to your committee. The enterprise is now organized on business principles and it is about time for the work of construction to begin. He would be a rash man who would assert positively and unequivocally that there had not been any waste of money or any corruption of any kind in the expenditure of some seven-

teen or eighteen millions under the conditions of distance and the sometimes necessary freedom from the closest supervision that have obtained in this work, but it can be affirmed that in spite of all the investigations, in spite of all the publicity given in various papers, as yet there has been no proof of corruption of any sort in the enterprise since the beginning, and I certainly hope that there is and will be nothing to justify such proof.

I am now subject to the questions of the committee.

Senator MORGAN. I wish to ask you, before we separate, if your attention has been called to the fact that in the passage of the Spooner law the Congress had no report before it except the first Walker report?

Secretary TAFT. I so understood; which put the level of the canal at 90 feet, as I recollect it.

Senator MORGAN. Yes. That report condemned the sea-level project, as I understand it. It was clear that it did.

Secretary TAFT. Yes, sir. At least, it did not favor it. It did favor the other.

Senator MORGAN. It really condemned it as an impracticable scheme considering all the surrounding circumstances. To the like effect, and in stronger words, it condemned the Gatun location. Now, the President, through the present Commission, a minority of whom have reported in favor of the Gatun dam—I mean the Consulting Board—

Secretary TAFT. Yes.

Senator MORGAN (continuing). Asserts the right, as I understand you to assert it, to claim that the law authorizes him to build the dam at Gatun, if we do nothing else?

Secretary TAFT. Yes, sir.

Senator MORGAN. I wanted to call your attention to that because I take issue with you upon that legal proposition.

Secretary TAFT. My proposition is this: That the Spooner Act gives the President the right to build any kind of a dam that he thinks wise. The amount provided is commensurate with that recommended by the Walker Commission for the construction of a 90-foot canal. The President has recommended the 85-foot canal, and has said to Congress that if it does not choose now to take the responsibility of saying just what the type of the canal shall be, he shall go on and exercise the authority conferred upon him by Congress in the Spooner Act; that authority to be exercised, of course, in connection with Congress in making the appropriations under his recommendations and estimates.

Senator MORGAN. My proposition in regard to the Gatun dam is that it was distinctly condemned in that report, and Congress, acting on the report, must be considered, I think, as having joined in the condemnation; and now that the Gatun dam is, through the President's adoption of the report, made the location for the Gatun dam, I can not make the connection between the Spooner Act and the establishment of a dam at Gatun, which that report condemns. I do not see the logical or legal connection between the two propositions. I merely wanted to call it to your attention, so that you might think it over before the examination is conducted any further.

(The committee thereupon adjourned until to-morrow, Friday, April 20, 1906, at 10.30 o'clock a. m.)

LIST OF EXHIBITS.

1. The Spooner Act.
2. The Hay-Varilla treaty.
3. Dispatch from General Davis, June 17, 1904, recommending form of customs law.
4. Letter of General Davis, October 18, 1904, to Admiral Walker, re postponement of orders of June 24, 1904.
5. Stenographic report of first conference between President Amador and Secretary Taft.
6. Cables to and from Secretary Hay regarding the order of December 3, 1904.
7. Stenographic report of conference with fiscal commissioners.
8. Law enacted by Panamanian Government re currency.
9. Statement of cost of exchange.
10. Letter of Mr. Shonts inclosing communications from the disbursing officer re bankers' agreement.
11. Statements of Commissioner Cooley and Mr. Pepperman re civil service.
12. List of requisitions unfilled February 1, 1905, and list of those on hand June 1.
13. Report of Major Mason.
14. Attempted legislation in Fifty-eighth Congress with reference to the canal.
15. Suggestions of Mr. Wallace, Mr. Parsons, and General Davis re reorganization.
16. Report of subcommittee of Committee on Interstate and Foreign Commerce on investigation of Panama Railroad.
17. Correspondence with Mr. Walker, traffic manager, re letter of criticism of rates.
18. Letters of Mr. Dauchy and General Davis.
19. Letter of Mr. Wallace to Secretary of War, of June 8, 1905, re conditions on Isthmus.
20. Statistics re gold and silver employees on the Isthmus and number of returning employees.
21. Clippings from newspapers re conditions.
22. Statements (1) given out for publication and (2) as dictated by Secretary.
23. Statement of organization department of construction and engineering, June 1, 1905.
24. Order of June 13, 1905, of Mr. Wallace re Dauchy and Prescott.
25. Report of Governor Magoon as to conditions, dated March 30, 1906.
26. Measures taken to make up for Mr. Wallace's retirement.
27. Correspondence on pipe-line subject.

EXHIBIT 1.—*The Spooner Act.*

AN ACT to provide for the construction of a canal connecting the waters of the Atlantic and Pacific oceans.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the President of the United States is hereby authorized to acquire, for and on behalf of the United States, at a cost not exceeding forty millions of dollars, the rights, privileges, franchises, concessions, grants of land, right of way, unfinished work, plants, and other property, real, personal and mixed, of every name and nature, owned by the New Panama Canal Company, of France, on the Isthmus of Panama, and all its maps, plans, drawings, records on the Isthmus of Panama and in Paris, including all the capital stock, not less, however, than sixty-eight thousand eight hundred and sixty-three shares of the Panama Railroad Company, owned by or held for the use of said canal company, provided a satisfactory title to all of said property can be obtained.

SEC. 2. That the President is hereby authorized to acquire from the Republic of Colombia, for and on behalf of the United States, upon such terms as he may deem reasonable, perpetual control of a strip of land, the territory of the Republic of Colombia, not less than six miles in width, extending from the Caribbean Sea to the Pacific Ocean, and the right to use and dispose of the waters thereon, and to excavate, construct, and to perpetually maintain, operate, and protect thereon a canal of such depth and capacity as will afford convenient passage of ships of the greatest tonnage and draft now in use, from the Caribbean Sea to the Pacific Ocean, which control shall include the right to perpetually maintain and operate the Panama Railroad, if the ownership thereof, or a controlling interest therein, shall have been acquired by the United States, and also jurisdiction over said strip, and the ports at the ends thereof to make such police and sanitary rules and regulations as shall be necessary to preserve order and preserve the public health thereon, and to establish such judicial tribunals as may be agreed upon thereon as may be necessary to enforce such rules and regulations.

The President may acquire such additional territory and rights from Colombia as in his judgment will facilitate the general purpose hereof.

SEC. 3. That when the President shall have arranged to secure a satisfactory title to the property of the New Panama Canal Company, as provided in section one hereof, and shall have obtained by treaty control of the necessary territory from the Republic of Colombia, as provided in section two hereof, he is authorized to pay for the property of the New Panama Canal Company forty millions of dollars, and to the Republic of Colombia such sum as shall have been agreed upon, and a sum sufficient for both said purposes is hereby appropriated, out of any money in the Treasury not otherwise appropriated, to be paid on warrant or warrants drawn by the President.

The President shall then, through the Isthmian Canal Commission hereinafter authorized, cause to be excavated, constructed, and completed, utilizing to that end, as far as practicable, the work heretofore done by the New Panama Canal Company, of France, and its predecessor company, a ship canal from the Caribbean Sea to the Pacific Ocean. Such canal shall be of sufficient capacity and depth as shall afford convenient passage for vessels of the largest tonnage and greatest draft now in use, and such as may be reasonably anticipated, and shall be supplied with all necessary locks and other appliances to meet the necessities of vessels passing through the same from ocean to ocean; and he shall also cause to be constructed such safe and commodious harbors at the termini of said canal, and make such provisions for defense as may be necessary for the safety and protection of said canal and harbors. That the President is authorized for the purposes aforesaid to employ such persons as he may deem necessary, and to fix their compensation.

SEC. 4. That should the President be unable to obtain for the United States a satisfactory title to the property of the New Panama Canal Company and the control of the necessary territory of the Republic of Colombia and the rights mentioned in sections one and two of this act, within a reasonable time and upon reasonable terms, then the President, having first obtained for the United States perpetual control by treaty of the necessary territory from Costa Rica and Nicaragua upon terms which he may consider reasonable, for the construction, perpetual maintenance, operation, and protection of a canal connecting the Caribbean Sea with the Pacific Ocean by what is commonly known as the Nicaragua route, shall through the said Isthmian Canal Commission, cause to be excavated and constructed a ship canal and waterway from a point on the shore of the Caribbean Sea near Greytown, by way of Lake Nicaragua, to a point near Brito on the Pacific Ocean. Said canal shall be of sufficient capacity and depth to afford convenient passage for vessels of the largest tonnage and greatest draft now in use, and such as may be reasonably anticipated, and shall be supplied with all necessary locks and other appliances to meet the necessities of vessels passing through the same from ocean to ocean; and he shall also construct such safe and commodious harbors at the termini of said canal as shall be necessary for the safe and convenient use thereof, and shall make such provisions for defense as may be necessary for the safety and protection of said harbors and canal; and such sum or sums of money as may be agreed upon by such treaty as compensation to be paid to Nicaragua and Costa Rica for the concessions and rights hereunder provided to be acquired by the United States are hereby appropriated, out of any money in the Treasury not otherwise appropriated, to be paid on warrant or warrants drawn by the President.

The President shall cause the said Isthmian Canal Commission to make such surveys as may be necessary for said canal and harbors to be made, and in making such surveys and in the construction of said canal may employ such persons as he may deem necessary, and may fix their compensation.

In the excavation and construction of said canal the San Juan River and Lake Nicaragua, or such parts of each as may be made available, shall be used.

SEC. 5. That the sum of ten million dollars is hereby appropriated, out of any money in the Treasury not otherwise appropriated, toward the project herein contemplated by either route so selected.

And the President is hereby authorized to cause to be entered into such contract or contracts as may be deemed necessary for the proper excavation, construction, completion, and defense of said canal, harbors, and defenses, by the route finally determined upon under the provisions of this act. Appropriations therefor shall from time to time be hereafter made, not to exceed in the aggregate the additional sum of one hundred and thirty-five millions of dollars, should the Panama route be adopted, or one hundred and eighty millions of dollars should the Nicaragua route be adopted.

SEC. 6. That in any agreement with the Republic of Colombia, or with the States of Nicaragua and Costa Rica, the President is authorized to guarantee to said Republic or to said States the use of said canal and harbors, upon such terms as may be agreed upon, for all vessels owned by said States or by citizens thereof.

SEC. 7. That to enable the President to construct the canal and works appurtenant thereto, as provided in this act, there is hereby created the Isthmian Canal Commission, the same to be composed of seven members, who shall be nominated and appointed by the President, by and with the advice and consent of the Senate, and who shall serve until the completion of said canal unless sooner removed by the President, and one of whom shall be named as the chairman of said Commission. Of the seven members of said Commission at least four of them shall be persons learned and skilled in the science of engineering, and of the four at least one shall be an officer of the United States Army, and at least one other shall be an officer of the United States Navy, the said officers, respectively, being either upon the active or retired list of the Army or of the Navy. Said Commissioners shall each receive such compensation as the President shall prescribe until the same shall have been otherwise fixed by the Congress. In addition to the members of said Isthmian Canal Commission the President is hereby authorized, through said Commission, to employ in said service any of the engineers of the United States Army at his discretion, and likewise to employ any engineers in civil life, at his discretion, and any other persons necessary for the proper and expeditious prosecution of said work. The compensation of all such engineers and other persons employed under this act shall be fixed by said Commission, subject to the approval of the President. The official salary of any officer appointed or employed under this act shall be deducted from the amount of salary or compensation provided by or which shall be fixed under the terms of this act. Said Commission shall in all matters be subject to the direction and control of the President, and shall make to the President annually and at such other periods as may be required, either by law or by the order of the President, full and complete reports of all their actings and doings and of all moneys received and expended in the construction of said work and in the performance of their duties in connection therewith, which said reports shall be by the President transmitted to Congress. And the said Commission shall furthermore give to Congress, or either House of Congress, such information as may at any time be required either by act of Congress or by the order of either House of Congress. The President shall cause to be provided and assigned for the use of the Commission such offices as may, with the suitable equipment of same, be necessary and proper, in his discretion, for the proper discharge of the duties thereof.

SEC. 8. That the Secretary of the Treasury is hereby authorized to borrow on the credit of the United States from time to time, as the proceeds may be required to defray expenditures authorized by this act (such proceeds when received to be used only for the purpose of meeting such expenditures), the sum of one hundred and thirty million dollars, or so much thereof as may be necessary, and to prepare and issue therefor coupon or registered bonds of the United States in such form as he may prescribe, and in denominations of twenty dollars or some multiple of that sum, redeemable in gold coin at the pleasure of the United States after ten years from the date of their issue, and payable thirty years from such date, and bearing interest payable quarterly in gold coin at the rate of two per centum per annum; and the bonds herein authorized shall be exempt from all taxes or duties of the United States, as well as from taxation in any form by or under State, municipal, or local authority: *Provided*, That said bonds may be disposed of by the Secretary of the Treasury at not less than par, under such regulations as he may prescribe, giving to all citizens of the United States an equal opportunity to subscribe therefor, but no commissions shall be allowed or paid thereon; and a sum not exceeding one-tenth of one per centum of the amount of the bonds herein authorized is hereby appropriated, out of any money in the Treasury not otherwise appropriated, to pay the expense of preparing, advertising, and issuing the same.

Approved, June 28, 1902.

EXHIBIT 2.—*Treaty with the Republic of Panama.*

The United States of America and the Republic of Panama being desirous to insure the construction of a ship canal across the Isthmus of Panama to connect the Atlantic and Pacific oceans, and the Congress of the United States of America having passed an act approved June 28, 1902, in furtherance of that object, by which the President of the United States is authorized to acquire within a reasonable time the control of the necessary territory of the Republic of Colombia, and the sovereignty of such territory being actually vested in the Republic of Panama, the high contracting parties have resolved for that purpose to conclude a convention and have accordingly appointed as their plenipotentiaries—

The President of the United States of America, John Hay, Secretary of State, and The Government of the Republic of Panama, Philippe Bunau-Varilla, envoy extraordinary and minister plenipotentiary of the Republic of Panama, thereunto specially empowered by said Government, who, after communicating with each other their respective full powers, found to be in good and due form, have agreed upon and concluded the following articles:

ARTICLE I.

The United States guarantees and will maintain the independence of the Republic of Panama.

ARTICLE II.

The Republic of Panama grants to the United States in perpetuity the use, occupation, and control of a zone of land and land under water for the construction, maintenance, operation, sanitation, and protection of said canal of the width of ten miles extending to the distance of five miles on each side of the center line of the route of the canal to be constructed; the said Zone beginning in the Caribbean Sea three marine miles from mean low-water mark and extending to and across the Isthmus of Panama into the Pacific Ocean to a distance of three marine miles from mean low-water mark, with the proviso that the cities of Panama and Colon and the harbors adjacent to said cities, which are included within the boundaries of the Zone above described, shall not be included within this grant. The Republic of Panama further grants to the United States in perpetuity the use, occupation, and control of any other lands and waters outside of the Zone above described which may be necessary and convenient for the construction, maintenance, operation, sanitation, and protection of the said canal or of any auxiliary canals or other works necessary and convenient for the construction, maintenance, operation, sanitation, and protection of the said enterprise.

The Republic of Panama further grants in like manner to the United States in perpetuity all islands within the limits of the Zone above described and in addition thereto the group of small islands in the Bay of Panama named Perico, Naos, Culebra, and Flamenco.

ARTICLE III.

The Republic of Panama grants to the United States all the rights, power, and authority within the Zone mentioned and described in Article II of this agreement and within the limits of all auxiliary lands and waters mentioned and described in said Article II which the United States would possess and exercise if it were the sovereign of the territory within which said lands and waters are located to the entire exclusion of the exercise by the Republic of Panama of any such sovereign rights, power, or authority.

ARTICLE IV.

As rights subsidiary to the above grants the Republic of Panama grants in perpetuity to the United States the right to use the rivers, streams, lakes, and other bodies of water within its limits for navigation, the supply of water or water power or other purposes, so far as the use of said rivers, streams, lakes, and bodies of water and the waters thereof may be necessary and convenient for the construction, maintenance, operation, sanitation, and protection of the said canal.

ARTICLE V.

The Republic of Panama grants to the United States in perpetuity a monopoly for the construction, maintenance, and operation of any system of communication by means of canal or railroad across its territory between the Caribbean Sea and the Pacific Ocean.

ARTICLE VI.

The grants herein contained shall in no manner invalidate the titles or rights of private landholders or owners of private property in the said Zone or in or to any of the lands or waters granted to the United States by the provisions of any article of this treaty, nor shall they interfere with the rights of way over the public roads passing through the said Zone or over any of the said lands or waters unless said rights of way or private rights shall conflict with rights herein granted to the United States in which case the rights of the United States shall be superior. All damages caused to the owners of private lands or private property of any kind by reason of the grants contained in this treaty or by reason of the operations of the United States, its agents or employees, or by reason of the construction, maintenance, operation, sanitation, and protection of the said canal or of the works of sanitation and protection herein provided for, shall be appraised and settled by a joint commission appointed by the Governments of the United States and the Republic of Panama, whose decisions as to such damages shall be final and whose awards as to such damages shall be paid solely by the United States. No part of the work on said canal or the Panama Railroad or on any auxiliary works relating thereto and authorized by the terms of this treaty shall be prevented, delayed or impeded by or pending such proceedings to ascertain such damages. The appraisal of said private lands and private property and the assessment of damages to them shall be based upon their value before the date of this convention.

ARTICLE VII.

The Republic of Panama grants to the United States within the limits of the cities of Panama and Colon and their adjacent harbors and within the territory adjacent thereto the right to acquire by purchase or by the exercise of the right of eminent domain, any lands, buildings, water rights, or other properties necessary and convenient for the construction, maintenance, operation, and protection of the canal and of any works of sanitation, such as the collection and disposition of sewage and the distribution of water in the said cities of Panama and Colon, which, in the discretion of the United States may be necessary and convenient for the construction, maintenance, operation, sanitation, and protection of the said canal and railroad. All such works of sanitation, collection and disposition of sewage, and distribution of water in the cities of Panama and Colon shall be made at the expense of the United States, and the Government of the United States, its agents or nominees shall be authorized to impose and collect water rates and sewerage rates which shall be sufficient to provide for the payment of interest and the amortization of the principal of the cost of said works within a period of fifty years, and upon the expiration of said term of fifty years the system of sewers and waterworks shall revert to and become the properties of the cities of Panama and Colon respectively, and the use of the water shall be free to the inhabitants of Panama and Colon, except to the extent that water rates may be necessary for the operation and maintenance of said system of sewers and water.

The Republic of Panama agrees that the cities of Panama and Colon shall comply in perpetuity with the sanitary ordinances, whether of a preventive or curative character, prescribed by the United States, and in case the Government of Panama is unable or fails in its duty to enforce this compliance by the cities of Panama and Colon with the sanitary ordinances of the United States the Republic of Panama grants to the United States the right and authority to enforce the same.

The same right and authority are granted to the United States for the maintenance of public order in the cities of Panama and Colon and the territories and harbors adjacent thereto in case the Republic of Panama should not be, in the judgment of the United States, able to maintain such order.

ARTICLE VIII.

The Republic of Panama grants to the United States all rights which it now has or hereafter may acquire to the property of the New Panama Canal Company and the Panama Railroad Company as a result of the transfer of sovereignty from the Republic of Colombia to the Republic of Panama over the Isthmus of Panama and authorizes the New Panama Canal Company to sell and transfer to the United States its rights, privileges, properties, and concessions, as well as the Panama Railroad and all the shares or part of the shares of that company; but the public lands situated outside of the Zone described in Article II of this treaty now included in the concessions to both said enterprises and not required in the construction or operation of

the canal shall revert to the Republic of Panama except any property now owned by or in the possession of said companies within Panama or Colon or the ports or terminals thereof.

ARTICLE IX.

The United States agrees that the ports at either entrance of the canal and the waters thereof, and the Republic of Panama agrees that the towns of Panama and Colon shall be free for all time so that there shall not be imposed or collected custom-house tolls, tonnage, anchorage, light-house, wharf, pilot, or quarantine dues or any other charges or taxes of any kind upon any vessel using or passing through the canal or belonging to or employed by the United States, directly or indirectly, in connection with the construction, maintenance, operation, sanitation, and protection of the main canal, or auxiliary works, or upon the cargo, officers, crew, or passengers of any such vessels, except such tolls and charges as may be imposed by the United States for the use of the canal and other works, and except tolls and charges imposed by the Republic of Panama upon merchandise destined to be introduced for the consumption of the rest of the Republic of Panama, and upon vessels touching at the ports of Colon and Panama and which do not cross the canal.

The Government of the Republic of Panama shall have the right to establish in such ports and in the towns of Panama and Colon such houses and guards as it may deem necessary to collect duties on importations destined to other portions of Panama and to prevent contraband trade. The United States shall have the right to make use of the towns and harbors of Panama and Colon as places of anchorage, and for making repairs, for loading, unloading, depositing, or transshipping cargoes either in transit or destined for the service of the canal and for other works pertaining to the canal.

ARTICLE X.

The Republic of Panama agrees that there shall not be imposed any taxes, national, municipal, departmental, or of any other class, upon the canal, the railways and auxiliary works, tugs and other vessels employed in the service of the canal, store-houses, workshops, offices, quarters for laborers, factories of all kinds, warehouses, wharves, machinery and other works, property, and effects appertaining to the canal or railroad and auxiliary works, or their officers or employees, situated within the cities of Panama and Colon, and that there shall not be imposed contributions or charges of a personal character of any kind upon officers, employees, laborers, and other individuals in the service of the canal and railroad and auxiliary works.

ARTICLE XI.

The United States agrees that the official dispatches of the Government of the Republic of Panama shall be transmitted over any telegraph and telephone lines established for canal purposes and used for public and private business at rates not higher than those required from officials in the service of the United States.

ARTICLE XII.

The Government of the Republic of Panama shall permit the immigration and free access to the lands and workshops of the canal and its auxiliary works of all employees and workmen of whatever nationality under contract to work upon or seeking employment upon or in any wise connected with the said canal and its auxiliary works, with their respective families, and all such persons shall be free and exempt from the military service of the Republic of Panama.

ARTICLE XIII.

The United States may import at any time into the said Zone and auxiliary lands, free of custom duties, imposts, taxes, or other charges, and without any restrictions, any and all vessels, dredges, engines, cars, machinery, tools, explosives, materials, supplies, and other articles necessary and convenient in the construction, maintenance, operation, sanitation, and protection of the canal and auxiliary works, and all provisions, medicines, clothing, supplies, and other things necessary and convenient for the officers, employees, workmen, and laborers in the service and employ of the United States and for their families. If any such articles are disposed of for use outside of the Zone and auxiliary lands granted to the United States and within the territory of the Republic, they shall be subject to the same import or other duties as like articles imported under the laws of the Republic of Panama.

ARTICLE XIV.

As the price of compensation for the rights, powers, and privileges granted in this convention by the Republic of Panama to the United States, the Government of the United States agrees to pay to the Republic of Panama the sum of ten million dollars (\$10,000,000) in gold coin of the United States on the exchange of the ratification of this convention and also an annual payment during the life of this convention of two hundred and fifty thousand dollars (\$250,000) in like gold coin, beginning nine years after the date aforesaid.

The provisions of this article shall be in addition to all other benefits assured to the Republic of Panama under this convention.

But no delay or difference of opinion under this article or any other provisions of this treaty shall affect or interrupt the full operation and effect of this convention in all other respects.

ARTICLE XV.

The joint commission referred to in Article VI shall be established as follows:

The President of the United States shall nominate two persons and the President of the Republic of Panama shall nominate two persons and they shall proceed to a decision; but in case of disagreement of the commission (by reason of their being equally divided in conclusion) an umpire shall be appointed by the two Governments who shall render the decision. In the event of the death, absence, or incapacity of a commissioner or umpire, or of his omitting, declining, or ceasing to act, his place shall be filled by the appointment of another person in the manner above indicated. All decisions by a majority of the commission or by the umpire shall be final.

ARTICLE XVI.

The two Governments shall make adequate provision by future agreement for the pursuit, capture, imprisonment, detention and delivery within said Zone and auxiliary lands to the authorities of the Republic of Panama of persons charged with the commitment of crimes, felonies, or misdemeanors without said Zone and for the pursuit, capture, imprisonment, detention, and delivery without said Zone to the authorities of the United States of persons charged with the commitment of crimes, felonies, and misdemeanors within said Zone and auxiliary lands.

ARTICLE XVII.

The Republic of Panama grants to the United States the use of all the ports of the Republic open to commerce as places of refuge for any vessels employed in the canal enterprise, and for all vessels passing or bound to pass through the canal which may be in distress and be driven to seek refuge in said ports. Such vessels shall be exempt from anchorage and tonnage dues on the part of the Republic of Panama.

ARTICLE XVIII.

The canal, when constructed, and the entrances thereto shall be neutral in perpetuity, and shall be opened upon the terms provided for by section 1 of article three of, and in conformity with all the stipulations of, the treaty entered into by the Governments of the United States and Great Britain on November 18, 1901.

ARTICLE XIX.

The Government of the Republic of Panama shall have the right to transport over the canal its vessels and its troops and munitions of war in such vessels at all times without paying charges of any kind. The exemption is to be extended to the auxiliary railway for the transportation of persons in the service of the Republic of Panama, or of the police force charged with the preservation of public order outside of said Zone, as well as to their baggage, munitions of war, and supplies.

ARTICLE XX.

If by virtue of any existing treaty in relation to the territory of the Isthmus of Panama, whereof the obligations shall descend or be assumed by the Republic of Panama, there may be any privilege or concession in favor of the Government or the citizens or subjects of a third power relative to an interoceanic means of communication which in any of its terms may be incompatible with the terms of the present

convention, the Republic of Panama agrees to cancel or modify such treaty in due form, for which purpose it shall give to the said third power the requisite notification within the term of four months from the date of the present convention, and in case the existing treaty contains no clause permitting its modifications or annulment, the Republic of Panama agrees to procure its modification or annulment in such form that there shall not exist any conflict with the stipulations of the present convention.

ARTICLE XXI.

The rights and privileges granted by the Republic of Panama to the United States in the preceding articles are understood to be free of all anterior debts, liens, trusts, or liabilities, or concessions or privileges to other governments, corporations, syndicates, or individuals, and, consequently, if there should arise any claims on account of the present concessions and privileges or otherwise, the claimants shall resort to the Government of the Republic of Panama, and not to the United States, for any indemnity or compromise which may be required.

ARTICLE XXII.

The Republic of Panama renounces and grants to the United States the participation to which it might be entitled in the future earnings of the canal under Article XV of the concessionary contract with Lucien N. B. Wyse, now owned by the New Panama Canal Company and any and all other rights or claims of a pecuniary nature arising under or relating to said concession, or arising under or relating to the concessions to the Panama Railroad Company or any extension or modification thereof; and it likewise renounces, confirms and grants to the United States, now and hereafter, all the rights and property reserved in the said concessions which otherwise would belong to Panama at or before the expiration of the terms of ninety-nine years of the concessions granted to or held by the above-mentioned party and companies, and all right, title and interest which it now has or may hereafter have, in and to the lands, canal, works, property and rights held by the said companies under said concessions or otherwise, and acquired or to be acquired by the United States from or through the New Panama Canal Company, including any property and rights which might or may in the future either by lapse of time, forfeiture or otherwise, revert to the Republic of Panama under any contracts or concessions, with said Wyse, the Universal Panama Canal Company, the Panama Railroad Company and the New Panama Canal Company.

The aforesaid rights and property shall be and are free and released from any present or reversionary interest in or claims of Panama and the title of the United States thereto upon consummation of the contemplated purchase by the United States from the New Panama Canal Company, shall be absolute, so far as concerns the Republic of Panama, excepting always the rights of the Republic specifically secured under this treaty.

ARTICLE XXIII.

If it should become necessary at any time to employ armed forces for the safety or protection of the canal, or of the ships that make use of the same, or the railways and auxiliary works, the United States shall have the right, at all times and in its discretion, to use its police and its land and naval forces or to establish fortifications for these purposes.

ARTICLE XXIV.

No change either in the government or in the laws and treaties of the Republic of Panama shall, without the consent of the United States, affect any right of the United States under the present convention, or under any treaty stipulation between the two countries that now exists or may hereafter exist touching the subject-matter of this convention.

If the Republic of Panama shall hereafter enter as a constituent into any other Government or into any union or confederation of states, so as to merge her sovereignty or independence in such government, union or confederation, the rights of the United States under this convention shall not be in any respect lessened or impaired.

ARTICLE XXV.

For the better performance of the engagements of this convention and to the end of the efficient protection of the canal and the preservation of its neutrality, the Government of the Republic of Panama will sell or lease to the United States lands

adequate and necessary for naval or coaling stations on the Pacific coast and on the western Caribbean coast of the Republic at certain points to be agreed upon with the President of the United States.

ARTICLE XXVI.

This convention, when signed by the plenipotentiaries of the contracting parties shall be ratified by the respective Governments and the ratifications shall be exchanged at Washington at the earliest date possible.

EXHIBIT 3.

PANAMA, June 17, 1904.

ISTHMIAN, *Washington*:

Urgently request following legislation: Section government authorized appoint collector of all revenues and subordinates and fix subordinates' salaries. Salary collector twenty-five hundred gold.

Section collection districts: Zone shall be Ancon, west half; Cristobal, east half.

Section free or dutiable goods coming by sea or rail, except in transit across Zone, must be entered Ancon or Cristobal; otherwise forfeited. Provided, governor may regulate subject Commission's ratification entering otherwise than by sea or rail.

Section governor authorized to make reciprocal or other arrangements with Republic to safeguard revenues.

Section products Republic, except spirits, enter Zone free, if Republic reciprocates.

Section governor shall apply Colombian customs administrative laws where practicable.

Section tariff on canal, railroad, machinery, tools, materials, supplies, Dingley rates, except coming from States, then free. Other goods, from everywhere, Panama Republic tariff.

Section governor authorized to place on free list or reduce rates articles dutiable Panama tariff, subject ratification Commission.

If above authority granted, I would make extensive free list in necessities, reduced rate many other articles, not including tobacco and spirits. Amador has full power his legislature adapt Panama rates to Zone rates and ready do so. Present Panama rates uniform, about 15 per cent ad valorem, except spirits, tobacco, few others, which are high. Opinion Russell I cannot enforce customs laws Panama without legislation.

If no quorum Commission, please refer Secwar for Presidential legislation.

DAVIS.

EXHIBIT 4.

ANCON, ISTHMIAN CANAL ZONE,

October 18, 1904.

SIR: You are aware section 5 of the President's order, dated June 24, 1904, provides that "duties on importation into the Canal Zone are to be levied in conformity with such duties as Congress has imposed upon foreign merchandise imported into other ports of the United States;" also that "goods or merchandise entering the Canal Zone from ports of the United States or Insular possessions shall be admitted on the same terms as at ports of the States of this Union."

You are also aware of the fact that on account of the tension that existed here shortly after the publication of this order no measures were instituted by the Zone authorities to collect revenues on goods imported into the Zone from foreign countries, and that has continued to be the case up to the present time.

Importations from foreign countries other than the Republic of Panama into the Zone up to the present time have been nil.

So far as I am aware, no goods have been purchased and brought into the Zone by merchants in the Zone, but the traders residing in the Zone are continually purchasing their goods from the merchants of Panama and Colon, and all such goods entering the Zone are required, under the President's order, to pay customs duties according to the Dingley tariff rates.

I propose, on the 15th of next month, to commence the collection of duties on imposts on such goods. In fact, the law enacted by the President has not been enforced up to the present time, and, to continue to ignore it is a responsibility I am not willing to assume, hence the action I now propose.

I have informed the collector of customs that he will be ready on that date to begin collecting duties on foreign merchandise entering the Zone. Up to the present time not a dollar of customs duties has been collected at all.

You are aware that at least one shipment of goods from the United States was made to a merchant in the Canal Zone, and the same, 50 barrels of beer, was passed into the Zone without payment of duty to the authorities of the Republic of Panama.

You are also aware that this act resulted in a protest lodged by the authorities of the Republic, which was brought before the minister of the United States resident in Panama, but which has received no other action that I am aware of than such that may have been taken by the diplomatic authorities.

Merchants of the Zone have brought to the attention of the collector of customs that goods ordered in the United States as stock for their own use at Gorgona, Empire, and other points are held at Colon for the reason that all such goods have been manifested to Colon. If the shipper asks for a bill of lading to Empire and offers the freight money the Panama Railroad Company refuses such bill of lading except to Colon, from whence he can forward the goods on another bill to other points in the Canal Zone if he desires. This brings the goods under the jurisdiction of the authorities of the Republic, who collect imposts, although the goods are intended exclusively for consumption in the Zone.

This matter has been brought to the attention of Colonel Shaler, and it has been pointed out to him that the course pursued by the officers of the company in New York is such that shippers are compelled to pay the taxes imposed by the authorities of the Republic upon all goods, even though they are intended for consumption in the Zone. In other words, they are goods which, under section 6 of the President's order, shall be entered free, and are goods which, according to our understanding of the treaty, are as much entitled to be shipped from New York on a through bill of lading as are goods consigned to Chile, Ecuador, or San Francisco. In a shipment of goods to Empire, for example, the consul of Panama in New York has nothing whatever to do with signing the manifest, and the authorities of the Republic have no more knowledge of the shipment of these goods than if it were going to South America.

I understand from Collector of Revenue Cooke that Colonel Shaler has promised to take this matter up with the New York office in the hopes that merchants desiring to ship goods to the Zone may have them shipped to their final destination, and so escape the payment of the duties imposed by the authorities of the Republic.

Very respectfully,

GEO. W. DAVIS, *Governor.*

Rear-Admiral JNO. G. WALKER,

Chairman Isthmian Canal Commission, Washington, D. C.

P. S.—In the papers received to-day I note that the minister of Panama to the United States, Mr. Obaldia, and, I think, Mr. Morales, have both stated that by the action of the United States goods coming to Colon and Panama and to the Zone generally are being taxed and the amounts collected by the Zone authorities. I see that the newspapers are repeating this statement as a fact.

Of course, you are aware there is no truth in it, but I wish to emphasize, in an official way, the statement that up to the present time no duties on goods imported into the Zone have been collected by the Zone authorities.

The measure which I now propose will institute such a proceeding, and if the Commission or the War Department wish me to still further desist I should like to have instructions to that effect.

If the merchants in the United States will ship the goods through to the Zone destination and take bills of lading from the steamship company, I think there will be no difficulty whatever with the Panama officials, for they will have no power to intervene.

ANCON, October 25, 1904.

DEAR SIR: Since the Commission left the Isthmus, the first part of September, there has been no disposition shown by the authorities of the Republic to discuss the question of reciprocal trade relations or any other matter connected with the subject of custom-houses or ports, and I have not raised the question. I observe in a press dispatch a statement to the effect that Secretary Taft is coming here, under orders

from the President, for the purpose of adjusting these matters. I have no other information regarding it, but assume there is some probability that the report is correct. If it should prove that he is coming, and I presume I shall know of it officially before long, I am inclined to defer the action spoken of in my recent letter in respect to the matter of charging import taxes on goods brought into the Zone from the cities of Panama and Colon until Secretary Taft arrives, as it will be better to have the question freed from any new complication.

Very respectfully,

GEO. W. DAVIS,
Governor.

Rear-Admiral J. G. WALKER, U. S. Navy,
Chairman Isthmian Canal Commission.

EXHIBIT 5.—*Minutes of conference of November 28, 1904, 10 a. m., at President Amador's palace, Panama.*

The gentlemen present were: Dr. Manuel Amador Guerrero, President Republic of Panama; Hon. William H. Taft, Secretary of War United States; Santiago de la Guardia, secretary of government and foreign affairs; Don Tomas Arias.

President Amador states that he would like to have these conferences considered confidential, in order that they may not be made a matter of comment in the newspapers of either the United States or this country, and prevent discussions of any character.

Secretary TAFT: I fully sympathize with President Amador in this matter—that we are here to reach a regular agreement which should not be affected by public glamour, or anything of that sort. The President, the Secretary of State, and myself thought it very wise to keep this meeting confidential, and that the presence of other gentlemen here whom I would propose as members of this Commission might interfere with the freedom of conversation I would like to have here.

President AMADOR. The points which are very prejudicial to us and not beneficial to the United States we wish to leave aside, believing as we do that we now enjoy a limited sovereignty—that is to say, a certain limited sovereignty will be deduced from the concessions which you may make us or we accept. The principal points are the questions affecting the revenues, the postal service, and commercial taxation in general.

There are some other minor points not so indispensable to our existence as these are. Any other questions which may arise will be presented in the regular course of events.

Don GUARDIA. We feel very grateful and consider it a high honor that Mr. Roosevelt should have had the tact to select a gentleman of such talent as yourself and of your high standing to come here on this mission.

The two principal motives which determined the independence of this country were:

First. To assure perpetual peace, which we did not have with Colombia, and which we expect to obtain with American support.

Second. To construct the canal. We consider that the existence of the nation is dependent upon the canal, and that by its construction we were permitting a work of great benefit, not only for the entire world, but also for the great nation of whom we expected the support.

These are the motives which led us to secure our independence.

We placed our entire trust in the United States Government, and, as Mr. Roosevelt said, the question for us was that the canal should be constructed, and that we present no obstacles whatever. But the idea of sovereignty was never put in doubt by us. We always believed that this sovereignty was restricted by a servitude in favor of the United States for the construction, maintenance, and protection of the canal. But we never imagined that such an idea could lead to a commercial business of the canal or to any measures except such as were necessary for its construction, maintenance, and protection, because such commercial advantages as the Government of the United States might derive from the Zone by interpreting the treaty in the form later seen are very insignificant for a country so great, for a government so rich and so generous as that of the United States, while for us—a very small people, a very poor people, which is still to be created and organized into a nation—have an importance of life and death. Whether we are to be a nation or not depends upon whether we receive these advantages.

We do not wish to present these matters in a controversial form, but simply as a statement of the idea as to sovereignty entertained by all Isthmians, and of the interpretation which has been given to the question of ports, the question of customs, the question of postal affairs, and other general points, together with all the illusions of this country, illusions which were revived by the letter of Mr. Roosevelt and the presence of yourself here.

We realize that the government of the Zone requires a police under its exclusive orders, without our intervention. All measures possible to establish order firmly, in view of the adventurers who will come to the Zone, must be taken in order to render the construction of the canal easy; but the dominant idea throughout the treaty is that we are charged with a servitude in favor of the United States, which limits our sovereignty for the construction, maintenance, and protection of the canal.

We understand perfectly that the United States has great moral interests not only toward itself but to the entire world, but we also believe that in the shadow of its great interests our interests can run parallel and make of us a model nation.

Mr. Roosevelt's letter has given us a great deal of consolation because of one of its parts in which he declares that the intention of the American Government has not been to create a colony affecting not only our interests, but even our amour propre as a nation. We note also that the people of this nation, subject as they are to prejudices of race and the influence of Colombia, should be modified gently under the lawful influence of the United States, by means of education and prosperity, in order that it may reflect honor on the United States and serve as an object lesson to all the other Latin American countries of America; that the American ideas are not ideas of conquest, and that we are convinced that they have not that idea.

Secretary Tamm. I would be glad to take up the points as they occur. As the Secretary of State, Mr. Hay, in my presence explained to Señor Obaldia, before this letter was published after it had been written to me, after the conference between the President, the Secretary of State, and myself, the letter was not considered and was not to be considered as inconsistent with the position taken by Secretary Hay in his answer to Señor Obaldia's note. It will be observed that the letter of Secretary Hay does not assert absolute sovereignty over the Zone, it only asserts the right on the part of the United States to exercise such powers as it might exercise if it were sovereign and the exclusion of the extent to which it might exercise those powers of the right of sovereignty of the Republic of Panama. But the very fact that the rights are conferred by the expression used implies that there is reserved to the Republic of Panama at least a titular sovereignty.

Now, as I have said already, it is not for me to enter into a discussion, because I have not the power to vary the position taken by Secretary Hay with reference to the extent of the powers which the United States might lawfully exercise in the Zone.

But my attitude must be this: Assuming the power to the extent declared in Secretary Hay's note, how far can I go in waiving the exercise of these powers and withholding the exercise of powers already exercised, so as to assure the Government of Panama that we wish to exercise no powers that we do not deem necessary in the construction, maintenance, and protection of the canal?

Now, I am not in a position to waive absolutely—I mean to give up the right to exercise—those powers, but I am given authority by the President to establish now, subject to action by Congress, a nonexercise of those powers, such as I hope will be satisfactory to the Government of the Republic, and will continue indefinitely until the construction of the canal shall so affect the relations and conditions existing as to require a new adjustment of the relations between the two Governments.

Now, that I may make myself plain: With the present Government, with President Amador and these gentlemen as his advisers, it might very well be that we should allow to lie dormant the exercise of powers that in case of the election of a Government whose personnel would not be so friendly to the United States we might have to use, and thus to protect our construction and maintenance and control of the canal by the exercise of greater powers than those we desire now to exercise.

I must make my position clear with respect to this, so that there will be no misconception of the extent of my powers. What I am here for is to see what now can be done in our actual conduct and by the issuing of an Executive order which shall repeal or effect or modify orders already issued, which shall suit your views with respect to the points you have mentioned.

I want to be as frank as possible in this matter, and I reiterate what I said before—that the Government of the United States has no desire to exercise any power which shall not be necessary for that purpose, the purpose that influenced you to give us the rights that we now have, and which induced us to make promises of payment and actually to pay the money which we did pay. I concur, and the Government

of the United States concurs, in the construction that all these rights were given us solely for the purpose of enabling us to construct, maintain, and operate the canal. It is not the motive that governed the conferring of those rights, but the extent of the rights necessary to enable us to secure this common object, that has been in controversy.

After this statement I shall be glad to confer with these gentlemen. I appreciate the honor of having this official communication with them, and I am glad to proceed with the consideration of the three points, or other points, that they have mentioned.

I wish to further emphasize that the last thing in the world that President Roosevelt and Secretary Hay have in mind is to injure the feelings of the people of the Republic of Panama by asserting a power which shall affect their national pride. Although we may desire to hold in reserve the right to exercise certain powers in the treaty, I wish these people to credit us with the greatest sincerity when we say that we are anxious not to exercise any power but that which we deem absolutely essential to the common object of both nations.

Upon completion of Secretary Taft's remarks, the meeting adjourned for submission of written memoranda by President Amador containing suggestions as to needed provisions on the three points named, to wit, the revenues, the posts, and the ports.

EXHIBIT 6.

[Confidential.]

PANAMA, December 2, 1904.

SECRETARY OF STATE, Washington:

After much effort and discussion, can arrange matters satisfactorily by Executive order repealing Dingley tariff and directing no importations shall be permitted at terminal canal ports except articles under Section XIII of treaty, and articles in transit across Isthmus, and coal and fuel for seagoing vessels, Panama agreeing to reduce ad valorem rate of duty from 15 to 10 per cent and consular fees to 60 per cent of present rates, and both parties agreeing to complete free trade between Zone and Republic.

Postal differences can be arranged by use of Panama stamps properly crossed with Zone marks, authorities paying 40 per cent of face value stamps and Panama agree that rate between Panama and United States of America shall be reduced to 2 cents gold.

Separate ports to be maintained as at present, with entries and clearances by proper officials of the respective Governments, but reciprocal arrangement mutually benefiting to be permitted for use of facilities of one port by vessels cleared for the other under suitable regulations not affecting complete administrative, judicial, and police jurisdiction by each Government over maritime harbor of its respective ports.

Complete and immediate sanitary and quarantine jurisdiction is to be secured to Zone authorities over harbors of Panama and Colon.

Provisional geographical delimitation of cities and harbors Colon and Panama between Davis and Panama authorities to remain in force.

Coinage and currency agreement already signed to be immediately executed.

Order contains clause reciting that its provisions and fulfillment of its conditions shall not be regarded as restrictive construction of rights of either Government under treaty. This order will secure all the duties for the Republic and will give it also some income from post. The duties might be secured to the Republic not by restriction of character of importations at terminal canal ports, as above, but by imposing a higher duty in canal ports than in Panama ports on all but excepted articles—say a 50 per cent increase; but whichever be the method, the prohibition of certain importations in the one case or the imposition of higher duty the other must, in order to effect purpose, apply to importations from United States of America into Zone, and the question is, Which is preferable? I prefer the former.

Please submit matters to President of the United States and advise me of your conclusion on this and other points as soon as practicable.

Exceptions as to coal and fuel importations made for the benefit of shipping and because it is impracticable to have coal pockets anywhere except at canal ports.

The order is of course revocable at will, and its operations can be suspended by Panama by refusal to continue compliance with any of its conditions, but I believe from conference that, adopted, it will continue satisfactory basis of relations between parties until opening of canal. Presume objection will be made that American

manufacturing interests are not protected by this order from competition with world on material and machinery for canal. If Congress wishes to secure that business solely to American merchants and manufacturers, it should do it by direct limitation on purchases and contracts of the Canal Commission and not by indirect method of duties, which can not but work inconvenience and hardship to Republic—to Panama and its merchants, as well as to Zone and its inhabitants.

TAFT.

STATE DEPARTMENT, *December 3, 1904.*

TAFT, *Panama:*

Have received your telegram of the 2d, and it has been submitted to the President of the United States. Your action and suggestion cordially approved.

HAY.

EXHIBIT 7.

NOTES OF A MEETING HELD IN THE OFFICE OF THE SECRETARY OF WAR, JUNE 11, 1904.

Secretary TAFT. Have you any idea of the amount of silver that is now in circulation there?

Mr. ARIAS. About two and a half millions.

Secretary TAFT. Of gold?

Mr. ARIAS. No, of pesos.

Secretary TAFT. How many people are there on the Isthmus?

Mr. ARIAS. About 350,000 in the Republic.

Secretary TAFT. You think there are about 5 pesos a head?

Mr. ARIAS. About 8 pesos per capita.

Secretary TAFT. That would be about 3,000,000 pesos. Admiral Walker, how much do you suppose your going in there would add to the demand for the peso?

Admiral WALKER. Well, it would add considerably. We should use it. We would pay our men with it.

Secretary TAFT. Would you pay every week or every month?

Admiral WALKER. Probably twice a month.

Secretary TAFT. Would you pay all your men in the peso?

Admiral WALKER. Yes; we should pay in that way probably all the people we employed down there. The people sent down from here we should pay once a month in gold or in United States currency, but the laborers and the people of the Isthmus would go on the silver roll and be paid every two weeks.

Secretary TAFT. Of course it is impossible to say what that roll would amount to?

Admiral WALKER. We could count on having in our employ down there somewhere from 12,000 to 20,000 men.

Mr. BARRETT. Camp followers would add 5,000 more, probably.

Secretary TAFT. The number of people would be a great deal in excess of the laborers. It would take about 20 pesos per capita every half month—about 400,000 pesos would be disbursed every half month?

Admiral WALKER. Yes.

Secretary TAFT. That would about double the circulation down there?

Admiral WALKER. Yes; fully.

Mr. BARRETT. The increase of the population generally would be very marked.

Secretary TAFT. Your idea, is it not, is simply to recoin the existing silver?

Mr. CROMWELL. Yes, sir; and to limit it.

Secretary TAFT. Don't you think you might have a provision that you could double it? You might safely do that if you retain what is there. You could retain a good deal more than that on a million and a half deposits, but what I am afraid of is that it would double the demand for silver, possibly treble it, because it will be very active.

Mr. ARIAS. We can not afford to have a deposit of one and a half millions. We need every cent of the money in the country at present. By the constitution, out of the \$10,000,000 we have to set apart six million, to be placed in securities giving annual fixed interest, so it can not be diverted to other purposes. With this balance we have to do everything.

Secretary TAFT. How much would be made from seigniorage?

Mr. CONANT. It would raise the value of the peso from 42 to 50 cents.

Secretary TAFT. Then they would make no money unless they increased their circulation on bullion. In that case they would make from 10 to 12 per cent on the silver bought.

Mr. CROMWELL. This subject has been very deeply considered by these gentlemen: not only by the gentlemen present, but by distinguished men in the Isthmus. It was considered by their convention; and a bill has been prepared by the Government, submitted, and is under consideration. That bill is very intelligent. I suggest Mr. Arias read and explain to you the measure pending. The convention is standing ready; the bill is here; if this form is acceptable it will be cabled there and probably passed. In other words, we have the measure on the table, and this conference may put it in shape where it will be adopted.

The bill which you hold is the original bill presented in March last by the Government, as a Government measure, to the convention then assembled as a lawmaking body. That measure was not passed. It stopped at the reading of the first clause. It, however, developed a strong support. Then there was introduced, April 25, a second measure, called the "Balboa bill," called by that name because the draftsman designated the new dollar as the "Balboa" dollar, and that was passed.

Secretary TAFT. Was that a gold dollar or a silver?

Mr. CROMWELL. Silver. Those two measures were on the table of the convention when the whole subject was referred to a second committee, taking up both measures. That committee, only two or three weeks ago, gave its support and recommended the adoption of the original bill, with a few changes. That is the state of affairs to-day. It came on for debate; it was debated, and it failed to pass because of the tie vote, the total membership being 32, 16 voting for and 16 against. You will see, then, that the state of legislation is this—that that measure which you hold, slightly amended, has received the indorsement of one-half of the legislature.

Secretary TAFT. The "balboa" bill, so called, provided, as our friend says, for a gold standard of 50 cents, with a silver coin, the parity of which was to be maintained with that 50 cents gold. Was there any provision in that bill for a security to the world that it was to be maintained?

Mr. ARIAS. There was to be a fund of \$100,000 that was to be kept in the treasury intact.

Mr. CROMWELL. The essence of this bill is to establish the gold dollar of the United States standard. The issue is limited to a conversion of the outstanding silver coinage, and the ratio is maintained by the conversion at a fixed figure, in the bill named at 225, but it may be amended later on to a different figure.

Secretary TAFT then read the bill, during which the following remarks were made:

Secretary TAFT. (After section 2.) In other words, the bill proposes the actual coinage of a dollar which shall be equal in fineness and size to that of the United States, with different insignia?

Mr. CROMWELL. Yes.

Secretary TAFT. But that the United States dollar itself shall be legal tender exactly as your own?

Mr. CROMWELL. Yes.

Secretary TAFT. (After section 6.) Now that limits the power of the Government to issue fractional currency beyond the amount of Colombian dollars, half dollars, quarter dollars, and ten-cent pieces that there are now in circulation in the Isthmus?

Mr. CROMWELL. Yes, sir.

Secretary TAFT. That is, you can not recoin anything that is not the product of the present coin in circulation in the Isthmus.

Mr. CROMWELL. No, sir.

Secretary TAFT. You could not send out under that and buy a lot of silver in Bogota and recoin it?

Mr. CROMWELL. No, sir.

Mr. CONANT. Mr. Arias explains that his theory is the Panama money would not be used to any considerable extent in the Canal Zone, and the two countries would make their money interchangeable. But the result would be that the Panama peso would be twice the size of the United States peso.

Secretary TAFT. (After section 8.) In other words, the Government obligates itself to maintain the legal parity of gold and silver and leaves to the Executive the power to determine what measures are necessary.

* * * * *

You would wish to facilitate the exchange of the old coin for the new, and in order to do so you want to furnish to those who want to exchange a slight motive for making the exchange—that is, to give them a little more than the coin is worth in ordinary exchange.

Mr. ARIAS. We want to make the conversion as economically as possible. If you take the Colombian money and move it to New York and exchange it for bullion, you would be at a loss. At that rate between the two values there is a difference in

favor of the Government of about 4 per cent, but that does not cover the expense of shipping and reshipping the coin.

Secretary TAFT. How are you going to induce them to bring the money in?

* * * * *

Secretary TAFT. We have had this same question in the Philippines, where we had the Mexican money, which corresponds, so far as our desire to get rid of it is concerned, with your Colombian money. In the islands we have also had the Spanish-Filipino money, which has circulated on an equality with the Mexican money at its intrinsic value. The difficulty that we have had is in inducing anybody to give us that Mexican or Spanish-Filipino money and turn it over to us in order that we might return our new dollar, and the reason why it is difficult to induce them is that whether you abolish the legal-tender character of the money or not, it still buys things in the market. They go down to the abaca provinces, and they can buy as many pounds of hemp with the Mexican dollar as they can with the new dollar. It is the ignorance of the people as to the exact value of the coinage that enables the speculators—the exporters—to go down and buy at Mexican rates and turn around and sell at gold rates at Manila. Therefore there is every motive for those men not to turn over the old money at all.

Mr. ARIAS. But the Colombian dollar has not the merit of the Mexican.

Secretary TAFT. But it is money that buys things. As long as your ignorant people of the 350,000 see a big, round silver dollar with Colombia on it, which has heretofore purchased things, they will not be affected by the declaration of legal tender.

Mr. ARIAS. But, for instance: I pay my employees in Colombian silver; then my man goes to the retailer and buys his goods; but the retailer will have to pay to the big merchants, and that is not good for them to exchange.

Secretary TAFT. You mean the retailer will not take the money?

Mr. ARIAS. Yes.

Secretary TAFT. But he will take it—for the purpose of purchasing with the cheap money.

Mr. ARIAS. We rely more on the condition of silver itself to keep its parity than upon the powers we give to the Government. Here is a country where we never have a scarcity of silver, and never an abundance.

Secretary TAFT. The question of maintaining parity depends something on your security. You ought to have a good strong reserve, merely to demonstrate your good faith. We keep in our Treasury \$150,000,000 gold, but we never have to touch it. That is not because of our making a paper declaration, but by setting aside the fund. It is to give assurance to the world that we have enough, and more than enough. Our Philippine gold reserve is about \$7,000,000, with an 18,000,000-peso issue. It must be admitted that the use by the United States of a large fund, in which it recognizes and enforces and stands back of your currency, will itself help you.

Mr. ARIAS. What objections have you to the soundness of the silver currency of ours?

Secretary TAFT. The only objection is the absence of any other except a general pledge of the Government to maintain the parity.

Mr. ARIAS. We give the Government full power. In two years from now, when the legislature convenes, we shall have the experience to tell just what conditions are needed.

Secretary TAFT. Here is the United States Government. Its word is usually regarded as good, but in order to back that up with security it takes \$150,000,000 of gold; so with the Philippine government, which has authority to borrow \$10,000,000 in order to maintain the parity, nevertheless it has thought it wise to buy silver, and we have in our Treasury \$7,000,000 to maintain the parity of 18,000,000 pesos.

Mr. CONANT. It is made a trust fund, specifically applied.

Judge MAGOON. About this question of maintaining the parity; as I understand it, you are relying, first, upon the limitation of the coinage of silver, and, second, upon the ability of the Government to maintain it. Now, the limitation in the proposed law is only as to the Colombian silver in circulation in Panama. Would it not be better to fix a certain amount rather than a variable amount? It would be difficult to prevent the bringing in of Colombian silver into Panama if it were a profitable industry. You are relying on a limitation, but have not specifically limited the amount of silver which your Government may coin.

Mr. ARIAS. If you should find when we collect the silver that it is too much, we have power to contract the currency. If we find that difference, then instead of returning our dollar for the Colombian silver we would throw up the difference.

Secretary TAFT. That bill in many respects is admirable. It is just exactly what we want, because we want to have a currency there that will assist us and we want to have a currency to assist you. If you could place the actual limit on the amount of silver you will coin, and then leave to us to say to you when additional coinage is needed to meet the demands of Admiral Walker, representing the canal, that would be well. Suppose he would need double the amount. Say that at the instance of the United States Government you would issue an additional sum of \$3,000,000, with the provision that you should use to secure the parity thereof, say, 20 to 25 per cent by depositing it at interest with an accepted trust company in New York for the benefit of your Government. You will observe that it is to our interest that we should use that coin to maintain the parity, and if we agree, as we must agree, in the estimates in our dealings to make that good by announcing it as worth so much and paying our laborers in that way, we enable you to secure the parity, and you aid us by depositing 20 to 25 per cent, not for the first three million but for any additional to be issued for the benefit of Admiral Walker.

BRIEF OF A CONFERENCE HELD IN THE OFFICE OF THE SECRETARY OF WAR ON THE AFTERNOON OF JUNE 18, 1904, BETWEEN THE SECRETARY OF WAR AND A DELEGATION FROM THE REPUBLIC OF PANAMA.

After a general discussion of the three paragraphs constituting the proposed agreement between the United States and the Republic of Panama for a monetary system. Mr. Cromwell stated:

Mr. CROMWELL. The essential points, Mr. Secretary, are a gold standard with the United States gold coins circulating now. Next, that we will issue a limited money for the first conversion up to 3,000,000 half-dollar pesos, and that on January 1, 1906, we will issue additional coinage as you may call for it, up to the limit of 3,000,000 half-dollar pesos more; that we will secure a guaranty of the parity, first, by a deposit of 15 per cent at each time from the beginning to the end of the series; and, second, that the Commission shall open its reserve funds to the amount necessary to insure this parity. That is the essence of our proposal. Now we put that in writing. If you accept it, Mr. Secretary, we are going to cable it to Panama to-night, and the convention is in session and is waiting solely for this, and they are anxious to get home. The cables are asking us almost every hour to get this conclusion, and we want them to receive your response. They will hold a session Monday morning, and they probably will pass the law in the form that is reported to-night.

* * * * *

After a general discussion of proposed amendments, Secretary Taft read the draft of the agreement, with amendments, as follows:

First. That the issue of silver coin of the Republic in exchange for Colombian silver coin in circulation in the Republic within a period to be fixed by the latter, shall be limited in the aggregate to the conversion of three million pesos, Colombian silver coins.

Second. That after the first day of July, 1905 (changed from the first day of January, 1906), there shall be coined and issued by the Republic such additional amount of silver coin, to the limit in the aggregate to the value of 1,500,000 pesos—equivalent to three million half-dollar pesos—as may be deemed by the President of the United States necessary or advisable in the construction or operation of the Isthmian Canal, and as may be requested by him of the executive power of the Republic.

Third. To guarantee the parity of such silver coin with the gold coin the Republic shall create a reserve fund by the deposit with a responsible banking institution in the United States of a sum equal in gold to fifteen per cent of the amount of the silver coin by it issued and as the same is issued, together with an amount equal to the seigniorage on the silver coins issued under the preceding provision 2. Arrangements shall be made between the Government of Panama and the Isthmian Canal Commission for selling at reasonable rates and on such terms as will tend to maintain the parity of the silver coins of Panama, drafts upon the reserve fund set aside under the previous paragraph, and upon the funds of the Isthmian Canal Commission.

The coin of the Republic shall be legal tender in the Canal Zone. The United States shall employ such silver coins in its disbursements in the Canal Zone and in the Republic so far as the United States may find it practicable and convenient.

The silver coinage herein referred to shall be executed by the Government of Panama at the mints of the United States, at the usual and legal rates.

Nothing in the convention shall be construed to restrict the rights of the Republic to reduce its silver currency after the opening of the Isthmian Canal to commerce, to such amount as it may deem advisable, and thereupon reduce and withdraw pro rata the reserve fund corresponding to such reduction of the silver coinage issue.

Mr. CROMWELL. There should be some memorandum embodying this and an exchange between the two Governments.

Secretary TAFT. The only authority I have is to act for the Commission. The authority which the Secretary of State would have is an authority which necessarily involves the treaty-making power and goes to the Senate. Now, we do not want to do that. The Post-Office Department makes a lot of arrangements which never go to the Senate at all, and this, I think, might properly be made by me as Secretary of War, representing the Isthmian Canal Commission with your Government. They have the disbursement of \$150,000,000 for this very purpose, and I do not see why it is not sufficient security for you, if you adopt that law, to say that we will subscribe to its terms.

Mr. CROMWELL. I think there is another view. Under the Spooner law all authority is vested in the Government. The President thereafter delegates, so to speak, some of his powers to yourself as Secretary of War, and charges you with certain broad duties in a letter of instructions, and I consider that you really act as the representative of the President under his letter of instructions given to you, and which he in turn derives from the Spooner law.

Secretary TAFT. Well, if you are satisfied, I will simply say—directed to these gentlemen—that if this is enacted into law by the Republic of Panama, in behalf of the Panama Canal, and exercising the authority imposed upon me by the President, I will, in behalf of the Canal Commission, see that the terms binding upon me shall be carried out. What do you say to that, Admiral?

Admiral WALKER. Yes, sir.

Secretary TAFT. Suppose, now, I just address a letter to these gentlemen, or to the minister—I don't care which—saying that after a conference and an examination of the terms which we have agreed upon, and representing the Canal Commission by virtue of the power imposed upon me by the President of the United States, I consent and agree on behalf of the Isthmian Canal Commission and the Government, so far as I have the power, that the terms therein imposed upon the Canal Commission in the United States and the Government of the United States shall be complied with upon the enactment of the law by the Republic of Panama.

Mr. CROMWELL. That is correct, Mr. Secretary, although we may perhaps want to put it in a little more precise form.

(At the suggestion of Mr. Cromwell, the members of the conference party signed their initials on the margin of the proposed agreement opposite the several amendments inserted. Mr. Cromwell then stated that the party would call Monday morning and give the Secretary of War a clean copy of the agreement.)

AGREEMENT BETWEEN THE SECRETARY OF WAR, ACTING FOR THE CANAL COMMISSION,
AND THE COMMISSION OF PANAMA.

JUNE 20, 1904.

Messrs. RICARDO ARIAS AND EUSEBIO A. MORALES,

Special Fiscal Commissioners of the Republic of Panama.

GENTLEMEN: I understand that there is now pending in the Convention of the Republic of Panama, exercising legislative power for the Republic, a bill to establish a monetary standard and to provide for the coinage necessary in the Republic. The Isthmian Canal Commission, whose action, by direction of the President of the United States, I am authorized to supervise and direct, is vitally interested in the maintenance in the Canal Zone of a stable currency, based upon the gold standard.

I conceive it to be of common benefit to the Republic and to the Isthmian Canal Commission that the currency used in the Republic and in the Canal Zone should be the same. I am informed that the Convention of the Republic has under consideration a measure which in substance provides:

I. That the monetary unit of the Republic shall be a gold peso of the weight of 1 gram 672 milligrams, and of nine hundred one-thousandths fineness, divisible into 100 cents, to be issued as and when considered by the Republic necessary or convenient for its requirements.

II. That the present gold dollar of the United States of America and its multiples shall also be legal tender in the Republic of Panama for its nominal value as equivalent to one gold peso of the Republic.

III. That fractional silver coins shall be issued by the Republic, of various denominations, all to be of an alloy composed of nine hundred one-thousandths of pure silver and one hundred one-thousandths of copper, the declared value of the same bearing

a ratio to the same weight of gold of approximately one to thirty-two, and that such fractional silver currency shall be legal tender in all transactions.

IV. That the silver to be coined shall be in fractional denominations of the gold peso or dollar and, except as hereinafter specifically provided, shall be coined only in exchange or conversion of the Colombian silver peso and fractional currency now legally in circulation in the Republic, and that the amount thus converted shall not exceed \$3,000,000 of such Colombian silver pesos.

V. That after July 1, 1905, there shall be coined and issued by the Republic such additional amount of fractional silver currency to the limit in the aggregate in value of 1,500,000 pesos or gold dollars, equivalent to 3,000,000 half-dollar pieces, as may be deemed by the Secretary of War of the United States necessary or advisable in the construction of the Isthmian Canal and as may be requested by him of the executive power of the Republic.

VI. The Republic of Panama, in order to secure the legal parity and equivalence with the gold standard of such fractional silver coins, shall create a reserve fund by deposit with a responsible banking institution in the United States of a sum in lawful currency of the United States equivalent to 15 per cent of the nominal value of the silver fractional currency issued by the Republic, and as the same is issued, together with an amount equal to the seigniorage on the silver coins issued at the request of the Secretary of War as aforesaid, less all necessary costs of coinage and transportation.

VII. That after conference with the Isthmian Canal Commission or its representatives or fiscal agents, the Republic of Panama will take such steps with respect to exchange by drafts upon its reserve fund as will tend to prevent the disturbance of the legal parity of the silver fractional currency of the Republic of Panama with the gold standard.

VIII. That the Republic of Panama shall cause its coinage to be executed at the mints of the United States.

Assuming that legislation will be enacted substantially to the foregoing effect, I agree on behalf of the Isthmian Canal Commission and by direction of the President of the United States—

First. That the Isthmian Canal Commission will make the gold and silver coin of the Republic of Panama legal tender within the Canal Zone by appropriate legislation.

Second. That it will employ such gold and silver coin of the Republic in its disbursements in the Canal Zone and in the Republic as the Canal Commission shall find practicable and convenient.

Third. The Isthmian Canal Commission shall cooperate with the Republic of Panama to maintain the parity of the fractional silver coinage of the Republic of Panama with the gold standard by sale of drafts upon its funds at reasonable rates and on terms which will tend to prevent the disturbance of such parity.

Fourth. It is mutually agreed that nothing herein contained shall be construed to restrict the right of the Republic to reduce its silver currency after the opening of the canal to commerce to such an amount as it may deem advisable, and thereupon to reduce and withdraw, pro rata, the reserve fund corresponding to the reduction of the amount of silver coinage outstanding.

Will you please confirm your accord with the foregoing?

Very respectfully,

WM. H. TAFT, *Secretary of War.*

SPECIAL FISCAL COMMISSION OF THE REPUBLIC OF PANAMA,
New York, June 20, 1904.

Hon. WM. H. TAFT,
Secretary of War, Washington, D. C.

SIR: Pursuant to the powers conferred upon us by the general directions of the Government of the Republic of Panama, and subject to the enactment by the Republic of the necessary legislation, we hereby declare our complete accord with the convention embodied in your communication of this date, and agree to the same as therein set forth.

We are, dear sir, very truly, yours,

RICARDO ARIAS,
ECSOBIO A. MORALES,

Special Fiscal Commissioners of the Republic of Panama.

EXHIBIT 8.

[Law No. 84.]

JUNE 28, 1904.

CURRENCY AND COINAGE.

The national convention of Panama decrees:

ARTICLE I.

The monetary unit of the Republic shall be the balboa, or a gold coin of one gramme six hundred and seventy-two milligrammes (1.672) weight and nine hundred thousandths (0.900) fineness—divisible into 100 cents (100/100).

The actual gold dollar of the United States of America and its multiples shall be legal tender in the Republic for its nominal value, equivalent to the balboa.

ARTICLE II.

When the Executive power arranges the national gold coinage this coinage shall be minted in pieces of one, two and a half, five, ten, and twenty balboas, choosing those coins which will have the greatest circulation.

ARTICLE III.

The silver money shall consist of an alloy of nine hundred thousandths of pure silver and one hundred thousandths of copper.

ARTICLE IV.

The names, weight, and diameters of the silver coins shall be as follows:

The peso, weight 25 grammes, diameter 37 millimetres, value 50 cents ($\frac{1}{2}$) of the Balboa;

The half peso, weight 12½ grammes, diameter 30 millimetres, value 25 cents;

The fifth of a peso, weight 5 grammes, diameter 24 millimetres, value 10 cents;

The tenth of a peso, weight 2½ grammes, diameter 18 millimetres, value 5 cents;

The twentieth of a peso, weight 1¼ grammes, diameter 10 millimetres, value 2½ cents.

In consequence two pesos of silver will equal in value one Balboa, which is the monetary unit. The other fractions of a peso shall retain the same proportional fractional equivalent with respect to the Balboa as a unit.

ARTICLE V.

The national silver coinage shall be legal tender for its nominal value in all transactions.

ARTICLE VI.

The Colombian silver money not inferior to 835-thousandths fine and 666-thousandths of the same alloy, which is actually in circulation in the Republic, shall be exchanged for the new national currency at the rate of 212.50 for each 100 Balboas or their equivalent in Panama silver money. But the conversion of the Colombian silver of 666-thousandths shall alone be limited to the five-cent pieces and to the sum of 20,000 pesos, as stipulated in the first clause of Contract No. 36, entered into between the extinct department of Panama in the name of the Republic of Colombia and Messrs. Isaac Brandon and Brothers, of this city, for the coinage of Colombian silver money, which contract was approved by General Victor Manuel Salazar, civil and military chief of the Department of Panama, dated October 10, 1902, and published in No. 1399 of the Panama Gazette of October 9th of the same year.

The obligations contracted before the present law became effective, payable tacitly or expressly in Colombian silver not inferior to 835 thousandths, shall be redeemable in the new national money at the rate indicated in this article.

ARTICLE VII.

The Colombian silver money referred to in this law shall continue to be legal tender until the day upon which begins the verification of the exchange.

The Executive power shall initiate the conversion of moneys, as referred to in article 6, on the first day of September next. For this purpose there shall be designated

the public offices, where, in the capital and the provinces of the Republic, the verification of the exchange shall take place and due notification shall be published thirty days before the date of exchange.

This conversion shall be made within sixty days after September 1st next, after which date Colombian money shall cease to be legal tender in the Republic.

ARTICLE VIII.

For the purpose of exchanging the silver money actually in circulation in the Republic, the Executive power is authorized to coin and issue, as stated in this law, Panaman money to the amount of 3,000,000 pesos.

ARTICLE IX.

To guarantee the parity between the silver and the gold money, the Executive power shall deposit in a safe banking institution in the United States a sum in gold equivalent to 15 per cent of the value of coinage issued.

ARTICLE X.

The Executive power shall publish monthly statements in the Official Gazette of the amounts of Colombian silver presented for exchange, and when the conversion is completed the Executive power is authorized to sell the silver thus obtained in any foreign market and at the best rate obtainable. The product of such sale shall be deposited as part of the funds of the Republic.

ARTICLE XI.

The design of the Panama coins referred to in this law shall be as follows:

On the obverse, the bust of Vasco Nunez de Balboa, discoverer of the Panaman shores on the Pacific, in profile and facing the right, with an ornament upon which are engraved the words "God, Law, Liberty." Above the bust, at the edge of the coin, the phrase "Republica de Panama;" on the base of the bust the word "Balboa" in capital letters, but not so large as the other inscriptions. In the lower part of the coin, under the bust, the year of coinage in figures.

The reverse of the coin shall bear the coat of arms of the Republic of Panama in the center; around the upper edge, the value of the coin in letters; around the lower edge, toward the right, the weight of the coin in grammes; toward the left, the amount of alloy in thousandths of fineness.

ARTICLE XII.

It is absolutely prohibited to introduce into the territory of the Republic any other silver money except that which the Executive power may issue in completion of this law.

ARTICLE XIII.

The Executive power is authorized to celebrate with the Government of the United States of America a monetary convention based upon the present law and arranged for at the conference held at Washington on the 18th of the present month of June between the commissioners of that Government and those of the Republic of Panama.

ARTICLE XIV.

The expenses incurred in carrying out this law shall be considered included in the regular budget of expenses.

Given at Panama the 27th day of June, 1904.

The President,

JERARDO ORTEGA.

The secretary,

LADISLAO SOSA.

NATIONAL EXECUTIVE POWER, TREASURY DEPARTMENT, Panama, June 28, 1904.

Publish and execute,

H. AMADOR GUERRERO.

The secretary of the treasury,

F. V. DE LA ESPRIELLA.

INVESTIGATION OF PANAMA CANAL MATTERS.

2599

EXHIBIT 9.

[Memorandum for Mr. Carpenter.]

ISTHMIAN CANAL AFFAIRS, OFFICE OF ADMINISTRATION,
Washington, D. C., April 9, 1906.

Referring to your memorandum of the 7th addressed to Mr. Seymour, stating that the Secretary of War desires an itemized statement of the amount of money paid out by the Commission for exchange under the monetary agreement from the time it went into force until now, and for what purpose paid, there is attached hereto a memorandum from the acting general auditor giving the data desired up to the end of February last, which includes the latest report received.

JOSEPH BUCKLIN BISHOP, *Secretary.*

Statement of payments made by the Isthmian Canal Commission, at the rate of three-quarters of 1 per centum for United States currency delivered to the Commission by the banking concerns under the term of an agreement entered into for one year from the 29th day of April, 1905, being all payments to February 28, 1906, under said agreement.

Month.	To whom paid.	Amount secured.	Premium paid.
1905.			
June.....	Ehrman & Co.....	\$80,000.00	\$450.00
	International Banking Corporation.....	50,000.00	375.00
	American Trade Developing Co.....	30,000.00	225.00
July.....	I. Brandon & Bros.....	60,000.00	450.00
August.....	Ehrman & Co.....	78,000.00	585.00
	International Banking Corporation.....	65,000.00	487.50
	I. Brandon & Bros.....	78,000.00	585.00
	American Trade Developing Co.....	39,000.00	292.50
September.....	Ehrman & Co.....	78,000.00	585.00
	I. Brandon & Bros.....	78,000.00	585.00
	International Banking Corporation.....	65,000.00	487.50
	American Trade Developing Co.....	39,000.00	292.50
October.....	Ehrman & Co.....	84,000.00	630.00
	International Banking Corporation.....	70,000.00	525.00
	American Trade Developing Co.....	42,000.00	315.00
	I. Brandon & Bros.....	84,000.00	630.00
November.....	American Trade Developing Co.....	42,000.00	315.00
	Ehrman & Co.....	84,000.00	630.00
	International Banking Corporation.....	70,000.00	525.00
	I. Brandon & Bros.....	84,000.00	630.00
December.....	do.....	75,000.00	562.50
	American Trade Developing Co.....	37,500.00	281.25
	International Banking Corporation.....	62,500.00	468.75
	Ehrman & Co.....	75,000.00	562.50
	International Banking Corporation.....	12,500.00	93.75
	I. Brandon & Bros.....	15,000.00	112.50
	Ehrman & Co.....	15,000.00	112.50
	American Trade Developing Co.....	7,500.00	56.25
1906.			
January.....	Ehrman & Co.....	90,000.00	675.00
	International Banking Corporation.....	75,000.00	562.50
	I. Brandon & Bros.....	90,000.00	675.00
	American Trade Developing Co.....	45,000.00	337.50
February.....	International Banking Corporation.....	75,000.00	562.50
	American Trade Developing Co.....	45,000.00	337.50
	Ehrman & Co.....	90,000.00	675.00
	I. Brandon & Bros.....	90,000.00	675.00
	Total.....	2,180,000.00	16,350.00

SUMMARY.

	Amount secured.	Percent- age of business.	Premium paid.
		<i>Per cent.</i>	
Ehrman & Co.....	\$654,000.00	30	\$4,905.00
International Banking Corporation.....	545,000.00	25	4,087.50
American Trade Developing Co.....	327,000.00	15	2,452.50
I. Brandon & Bros.....	654,000.00	30	4,905.00
Total.....	2,180,000.00	100	16,350.00

Respectfully submitted.

APRIL 9, 1906.

P C—VOL 3—06—42

HARRY C. LEWIS,
Acting General Auditor.

EXHIBIT 10.

APRIL 1, 1906.

MY DEAR MR. SECRETARY: I herewith transmit to you copy of a letter received by me to-day from Disbursing Officer Williams.

I have been giving this subject a good deal of thought the last ten days, knowing that the present arrangement will expire on April 29, but did not intend to write you until I had studied the situation personally on the Isthmus. However, as I desire you to read the letter of Williams, I take this occasion to give you my ideas on the subject.

I understand that the bankers have not found the present agreement profitable and do not care to renew it. I am also advised that the question of keeping an adequate amount of silver on hand is constantly growing more serious. It is also true that our inability to pay by check necessitates the handling of large quantities of coin, with attendant risk, etc. You will see from Mr. Williams's letter that the Jamaica negroes are becoming used to our \$5 gold pieces, and that in his judgment it would not embarrass anyone if we paid partially in gold. In fact, he thinks this method to be the only feasible solution of the silver-supply question.

It seems to me that the best thing to do is to appoint a fiscal agent, advising him what we expect him to accomplish, and paying him a reasonable compensation for same. The Government can not any more than an individual expect something for nothing without in the long run being a sufferer.

I understand that the International Banking Corporation is now nominally fiscal agent for the Government, and I believe an arrangement can be made with them under which they would keep a sufficient supply of both gold and silver coin on hand for our necessities, maintain the parity between the two, possibly have branches at the points mentioned by Mr. Williams, and do some or all of the work indicated by Mr. Williams in his letter. I saw General Hubbard in New York last week, and, having this subject in my mind, asked him how he would feel toward the proposition of acting as our fiscal agent under instructions without any demand for a certain amount of deposits, but simply receive a fair compensation for the work done. The general said he would be glad to so act, carrying out any instructions we might give them; so, I believe, if you favor Mr. Williams's recommendations, that an arrangement could be made on a satisfactory basis with the International Banking Corporation to do the work required.

Very truly, yours,

T. P. SHONTS.

The SECRETARY OF WAR.

ISTHMIAN CANAL COMMISSION.
OFFICE OF THE DISBURSING OFFICER.
Panama, March 10, 1906.

HON. THEODORE P. SHONTS,
Chairman Isthmian Canal Commission, Washington, D. C.

SIR: I have the honor to address this communication to you with reference to the monetary situation.

As the arrangements now in force with the Isthmian bankers expire April 29 next, and as Congress must take action before that time as to future arrangements in order to avert embarrassing complications that may arise to add to the difficulties for obtaining satisfactory results, I have without special instructions from you given this my attention and submit my views, which I urge will have your serious consideration without delay.

I have studied the present monetary conditions on the Isthmus and have carefully investigated the situation as to the supply of United States currency and Panama silver, as well as our present arrangements for obtaining the requisite amounts for our disbursements. I am firmly of the opinion that the present method is not the best, from a sound business standpoint, as we are absolutely dependent upon the banks, who, under the present arrangements, may at any time be unable to fill our requirements for silver, as they have already acknowledged to me that there is a serious doubt as to their being able to entirely fill our requisitions for Panaman silver. All but one of the banks have taken the full ten days allowed by the agreement for delivery during the past few months. This shows the inevitable embarrassment to which I would

be subjected if all the bankers took the limit of ten days allowed by the agreement, as I would have no work for my money counters nor counted money for the pay clerks with which to meet payments at that particular period, and leave us face to face with the necessity of having to have more silver coined on short notice or suddenly having to pay a part of our silver rolls in United States gold without first paving the way for such action, thus possibly bringing about temporary financial disturbances and criticism of our administration.

The black laborers are quite familiar with our \$5 gold pieces, for which they pay a premium to brokers, who sell them at from 1 per cent to 2 per cent advance. I desire to take advantage of the inclination of the black laborers toward United States gold and gradually accustom them to receive gold direct from us in payment of wages. The United States \$5 gold piece is commonly called, by the laborers from English possessions, an "American pound" and taken by them in preference to an English sovereign, and is considered by them equal to ₡10 silver and the premium they have to pay the brokers for the coin. I know that a part of our silver rolls can, without question, be paid in gold if the laborer is properly prepared for the change. I know from actual observation that the introduction of our actual gold money here will not have a tendency to deplete the United States Treasury, as whenever our gold is in circulation there has been shown no inclination on the part of anyone to accumulate and hoard our gold. It circulates very freely in quite a quantity here on the Zone and in the Republic of Panama, and we receive a large amount of it in our daily remittances from postmasters, hospitals, etc.

For example, if a laborer who receives his entire pay in silver and goes directly to a broker and pays a premium for \$5 gold pieces has due him, say, ₡30 silver, the equivalency in gold of \$15, we could pay him one or two \$5 gold pieces as equivalent of ₡10 or ₡20 silver, respectively, and the balance of his pay in actual silver, thus utilizing gold in part settlement of our silver rolls, with a corresponding decrease in the amount of silver required. This will have the effect of reducing our requirements for silver and in doing away with the necessity for having to consider a further coinage and will make the silver now in circulation here sufficient for all requirements as subsidiary coinage and place us in a position to pay much or little silver, as we may see fit, according to conditions as they exist, as to whether there is a large or small supply of silver available. The fear expressed by some that by the payment of our silver rolls in gold the necessities of life will be doubled is rank absurdity, so long as the parity is maintained, and particularly so if we pay only a part in gold and the balance in silver at the legal parity.

All prices here are reckoned in gold now. I have read the testimony of various witnesses before the Senatorial committee regarding the money situation and have come to the conclusion that the witnesses either know very little about the real conditions or have held back altogether too much, and I think that it is high time for you to know the actual facts, and that we are not all dishonest down here. I hope, if consistent, that you will bring, in a clear and concise way, to our lawmakers the fact that up to now we have handled millions of dollars without the loss of one cent, as well as the fact that there is great danger of serious financial complications if present conditions are not looked after, and that unquestionably the matter should be placed in the hands of a financial agent to act for and advise us in all matters relative to our monetary requirements, so that any financial disturbances may be anticipated and the necessary remedy applied before it becomes critical.

In order to place the Commission in a strong and commanding position and surround myself with every safeguard possible, and by which a certain sure supply of both United States and Panama moneys can be had when needed and the financial situation on the Isthmus absolutely controlled by the Commission, including the assurance of a stable silver currency circulating on a parity with United States gold, regardless of any action on the part of the Panama Government, I propose, and strongly urge, the immediate careful consideration of the following plan:

That arrangements be made whereby a bank will be established under our laws at Empire, Canal Zone, and near to my future office, with an agent or branch at Ancon, the Pacific terminal, and at Cristobal, the Atlantic terminal, or in the cities of Panama and Colon, preferably in the Canal Zone.

That such an institution be made the fiscal agent and designated "A depository for the funds of the Commission and the Canal Zone," who will cash my drafts on New York and where I can deposit all funds, subject to check, that come into my possession, and by this means keep the money in constant circu-

lation, instead of as now done, locked up in our vaults until required; where funds of municipalities can be deposited for safe-keeping and at the same time be in circulation to help out the stringency in the Panaman money situation, instead of being hoarded up in my vaults until called for by the municipalities, without any bond from me to protect them; where postmasters can deposit to the credit of the Canal Zone treasurer the money-order receipts, and where the treasurer of the Canal Zone can remit the same to the Post-Office Department at Washington by draft, thereby saving and controlling to a large extent the circulation of the United States currency on the Isthmus and keeping the little republics in this vicinity from picking it up and carrying it off for their people to use at our expense; where money can be transferred from one point to another by check in a businesslike way, instead of continuing to do as is now done—bring the actual money from one point on the line to Panama, and then the next day return the same money to the same place for disbursement, running the risk of loss each time it is handled, when it could be done with safety, dispatch, and speed, and without undue risk, as stated, by check.

That this concern be charged with the duty of supplying all the monetary requirements of the Commission, and if necessary, of dealing direct with the local banks, instead of having each one, as is now done, deal direct with me, and also to deliver funds for me at Empire, Ancon, and Cristobal, against my checks on them, to paymasters, and pay clerks at detached pay houses and cars, thus ultimately giving me the paid check as an additional voucher and furnishing further safety.

In other words, I wish to use this bank as a depository and distributing agent, there being no express company or other safe means for the secure transportation of money on the Isthmus, as well as to obtain from them my supply of United States and Panaman moneys, and at the same time have a control through them of the Panaman silver, to prevent a tie up of silver by any possible combination or trust to the detriment of the work and for the purpose of holding up the Commission.

I wish you to be able to treat with this concern just as if they were a department of the Commission. They being, however, separate and distinct from the Commission are in a position to promote our fiscal policy on account of their ability to transact business with the community at large, by which our financial policy can be promulgated and made effective; it of course being understood that this bank must in every way act in accordance with the wishes of the Commission.

In order to be assured of a stable silver currency, without reference to the present arrangements made by the Panaman Government for maintaining the parity, this bank must, upon demand at any of its offices from any person, subject to necessary restrictions as to time, mutilated money, etc., pay one gold dollar for two silver pesos, by which means the value of the silver pesos can not go below the value of 50 cents United States gold, and the result would be the same as if the money were guaranteed by the United States and as if we had a United States subtreasury established on the Isthmus.

The bank and branches should, if possible, be located upon a spur track, subpay stations being similarly located, in order that the money may be loaded direct from the vaults of the bank into pay cars upon sidings, transported to the subpay stations and unloaded directly into the vaults therein.

As the silver money of this country weighs about 55 pounds to the thousand dollars, and at the present time we are expending for pay rolls alone about \$720,000 per month, it will readily be seen what a saving in the matter of labor, hauling, and counting incident to the transfer of these funds would thus be made.

The money should be counted by the bank and put up in packages convenient for payment, amounts of same to be specified by the disbursing officer, and delivered to the disbursing office in this shape, various sized packages sacked separately in amounts of \$1,000 each.

The ability to depend upon the count of the bank would thus relieve this office of the counting now necessary, which at the present time costs the Commission \$135 gold per month for counters alone.

The three-fourths of 1 per cent now paid the members of the bankers' agreement for the gold furnished to the Commission has been estimated for the fiscal year 1907 to cost the Commission about \$54,000 in premiums. The elimination of the cost of the money counters, which next year has been estimated at \$2,460, and the premium required under the present agreement, \$54,000, would make a total expense for those two items alone of \$56,460, which would go a

long way toward payment of any expense necessary in the arrangement above recommended.

The advantage to this office of this arrangement for the receipt of silver would be vastly more than above indicated, as it requires considerable work and time daily to handle this silver upon its receipt from the banks, turning over to and receiving again from the money counters and transfers incident to payment of the pay rolls, aside from the work, labor, transportation, etc., necessary in the transfer of these funds from the vaults to the pay car and return each pay period.

I believe that the payment of the above sum would be sufficient to make some such arrangement, which would be far and away better than the present one and save additional expense, great risk, work, and inconvenience, which has been experienced, and give the Commission a very exhaustive check on my cash accounts.

In addition to the above there is an absolute need for the immediate establishment at all post-offices in the Canal Zone of the United States post-office money-order system—so successful and popular in the United States—by which means employees will have the facilities for remitting money to different parts without having to leave their work for a few hours or, as is now done in many instances, for a whole day, in order to buy drafts at Panama or Colon, where now the only banks are located, with the result that the Commission loses their time, which, if counted in dollars and cents, amounts to a large sum each month, with often a further loss from the fact that when some return to work they are unfit for duty from overindulgences. This would, in the course of a year, save many thousand dollars in time and service of employees, and be a great source of revenue to the Government if the same rate is charged here as is charged in the United States for money orders. The money received by the different post-offices from the sale of money orders would be immediately deposited with the Zone depository and accounted for through them, and in this manner would be continually checked by the proper officers and kept in constant circulation.

An arrangement of this kind will have to be paid for in some mutually satisfactory manner, but I think the benefits to be derived by us will be far in excess of the cost and at a great saving over our present arrangement and far safer.

If the above suggestions are placed in operation at the earliest possible moment, a great amount of the detail work of handling the actual coin will be done in a safe and expeditious manner and at the same time I shall be assured of obtaining the results required for prompt, safe, and systematic disbursement of funds, early and quickly audited, and at the same time be assured of a reliable source from which to draw funds and handle any financial question which may arise in the future. If Congress could be persuaded to do this and some good reliable bank were to secure the contract, it would place another desirable and effective safeguard around the money, be reasonably profitable to the bank that gets the contract, and be a great saving to the Commission over the present arrangement.

If such a bank as I have described can not be arranged for, or an express company put in operation on the Panama Railroad, I would heartily favor our remaining here in Panama, knowing as I do, that an office at Empire would be far better for us in every other regard.

Respectfully, yours,

EDWARD J. WILLIAMS,
Disbursing Officer.

EXHIBIT 11.—*Memorandum in re method of selecting employees for the isthmian service.*

First. Prior to November 15, 1904, employees of the Isthmian Canal Commission were in no sense subject to civil-service requirements. They were selected by the Canal Commission in such manner as that Commission saw fit. It was understood, however, that the practice was to accept and file applications, and, upon the need of employees, to select from such applications the persons deemed best qualified.

Second. On November 15, 1904, the President issued an order placing the employees of the Canal Commission in the classified service, reading as follows:

"In exercise of the power vested in the President by section 1753 of the Revised Statutes and acts amendatory thereof: It is

"Ordered, That the Isthmian Canal Commission be classified and the civil-service act and rules applied thereto, and that no person be hereafter appointed, employed, promoted, or transferred in the service of said Commission until he passes an examination in conformity therewith, unless specifically exempted thereunder. This order shall apply to all officers and employees, except persons employed merely as laborers, persons whose appointments are confirmed by the Senate, and engineers detailed from the Army.

"The officers and employees included within the provisions of this order are hereby arranged in classes according to annual salary or compensation, as follows:

- "A. Less than \$720.
- "B. \$720 or more and less than \$840.
- "C. \$840 or more and less than \$900.
- "D. \$900 or more and less than \$1,000.
- "E. \$1,000 or more and less than \$1,200.
- "1. \$1,200 or more and less than \$1,400.
- "2. \$1,400 or more and less than \$1,600.
- "3. \$1,600 or more and less than \$1,800.
- "4. \$1,800 or more and less than \$2,000.
- "5. \$2,000 or more and less than \$2,500.
- "6. \$2,500 or more."

In connection with this order of classification the President issued the following Executive order defining the positions which may be filled without competitive examination under the civil-service rules:

"EXECUTIVE ORDER.

"Schedule A of the civil-service rules is hereby amended by adding at the end thereof a new section, reading:

"VIII.—*Isthmian Canal Commission.*

- "1. Secretary.
- "2. Assistant secretary.
- "3. Executive secretary to the governor of the Canal Zone.
- "4. Chief clerk.
- "5. Treasurer.
- "6. One deputy treasurer.
- "7. One chief of materials and supplies.
- "8. Auditor.
- "9. Two deputy auditors.
- "10. One disbursing officer for the Canal Zone.
- "11. One collector of revenue.
- "12. Chief engineer of the Commission.
- "13. Division engineers.
- "14. Resident engineers.
- "15. Hospital attendants.
- "16. Chief sanitary officer.
- "17. Assistant sanitary officers.
- "18. Director of hospitals.
- "19. Superintendents of canal hospitals, one for each hospital.
- "20. Chief quarantine officer.
- "21. Two assistant quarantine officers.
- "22. Sanitary officer at Colon.
- "23. Sanitary officer at Panama.
- "24. Chief justice and judges of supreme and circuit courts.
- "25. Clerks of the supreme and circuit courts.
- "26. Marshals of the supreme and circuit courts.
- "27. Municipal judges.
- "28. Occasional officers of courts, such as referees, trustees, commissioners, and guardians ad litem.
- "29. Notaries public.
- "30. Mayors of municipalities.
- "31. Municipal secretaries.
- "32. Assessors of taxes.
- "33. One private secretary to governor of Canal Zone.
- "34. Warden and keeper of penitentiary at Gorgona.

- "35. One chief of police.
- "36. Captains of police.
- "37. Detectives.
- "38. Corporals and privates of police force.
- "39. All employees in mechanical trades or other skilled manual occupations who are appointed locally upon the Isthmus of Panama, and whose compensation is \$4 per diem or less, or \$100 per month or less while actually employed."

The Civil Service Commission was necessarily unable to immediately establish eligible lists for the various positions, and until the Canal Commission was formally notified of the establishment of an eligible list for a particular position it was authorized to follow the old method in selecting employees for that position.

Furthermore, after establishing an eligible list for a particular position in the first instance, when that eligible list became exhausted the Canal Commission was also authorized to select its employees under the old procedure.

Pursuant to authority contained in the foregoing instance, the Canal Commission did continue the method of selecting from applications placed on file.

Third. Following the reorganization of the Canal Commission in the spring of 1905, the demand for employees on the Isthmus materially increased, and the practice grew up of authorizing subordinate officials, while on leave of absence in the United States, to select their subordinates. In addition, Captain King, who had charge of personnel under Engineer Wallace, accompanied that official to the States, and remained in Washington about six weeks following the reorganization. During this period he selected a large number of all classes of workmen. These subordinate officials from the Isthmus selected their employees, under authority of the Civil Service Commission, for those positions for which that Commission either had not yet established eligible lists in the first instance or the eligible lists for which had become exhausted.

To supplement the labors of these subordinate officials on leave, and with the approval of the isthmian authorities, a practice grew up of allowing a subordinate official newly appointed to select employees of a character which would probably be under his supervision when he assumed his duties on the Isthmus, to accompany him down there.

Fifth. The method outlined in the preceding paragraph was subject to two vital objections: First, the uncertainty as to whether or not the Civil Service Commission had an eligible list, or would have an eligible list available, and the further fact that by giving authority to so many different persons to select employees there was great danger of applicants being misadvised as to the true conditions of employment; therefore, under agreement with the Civil Service Commission in the late summer of 1905 permanent employment agents were placed in the field in the United States. These agents were to be charged only with the securing of the mechanical trades and building trades people and the outdoor railroad positions. The eligible lists of the Civil Service Commission for such employees were to be done away with. The employment agents were to be made members of the local civil-service boards throughout the country, and a system of ratings based on the elements of age, experience, and physical condition by such employment agents as members of such boards was to satisfy the civil-service requirements.

Sixth. The divided responsibility as imposed in the preceding paragraph proved unsatisfactory, and ultimately resulted in a clean-cut division of employees into two classes—those to be selected by the Civil Service Commission and those to be selected by the Canal Commission in such manner as it saw fit. This was accomplished by the President's order of January 12, 1906, under the provisions of which clerks of all kinds, bookkeepers, stenographers, typewriters, surgeons, physicians, internes, trained nurses, and draftsmen were to be selected from the civil-service lists.

Following this three employment agents, representing the chief engineer and selected by him, were placed in the field. Requisitions for personnel are made direct upon the Washington office, which utilizes these three employment agents stationed in different parts of the country in rounding up properly qualified persons for isthmian service. A fixed wage scale has been adopted, and if the employment is an unusual one not provided for in such wage scale the salary is set forth in the requisition calling for such employee. Employees are selected strictly in accordance with requisitions and sent to the Isthmus according to prearranged schedule. The system is working satisfactorily.

W. LEON PEPPERMAN,
Assistant Chief Isthmian Canal Affairs.

MEMORANDUM REGARDING T. A. DAVIS.

WASHINGTON, D. C., *March 26, 1906.*

In the letter of June 23, 1905, Mr. Wallace, then chief engineer, stated to this office that he had detailed Mr. T. A. Davis "for the purpose of securing some good track foremen," and requested that this office issue appointments upon Davis's recommendation. Mr. Davis, under date of June 29, informed this office that the chief engineer had authorized him to secure 100 or more track foremen, and in accordance with these two letters, Mr. Davis proceeded to the selection of employees. Davis arrived in the United States the latter part of June, and his operations in securing employees extended from June 30 to the latter part of July. He sailed for the Isthmus on the boat of August 2. The records show that Mr. Davis was granted extension of leave, at the direction of the chairman, for two weeks, in order that he might secure employees, although this was done with reluctance. He desired that a further extension of leave be granted him, but this office refused to grant it, as it was very much dissatisfied with his operations in New York. After he left for the Isthmus he put in a claim for expenses, including daily side trips to all sections of the country, even as far as Baltimore, different parts of Connecticut, and New York State. He had no authority in any way for making such extended trips.

Upon the accession of Chief Engineer Stevens it was ascertained that the employees selected by Mr. Davis were not qualified for the positions to which appointed, and under date of September 28, in a letter from the manager of labor and quarters on the Isthmus, it is stated: "He (Davis) was discharged in the interest of the service, one of the reasons for his discharge being, I understand, his total lack of judgment in hiring track foremen for the account of the Commission while he was in the States on this work, many of the men whom he brought down as foremen never having had any experience whatever, and the majority of them being very poor. It is believed that in some instances the men he hired were brought down as foremen with the intention of getting them transferred to a clerical position when they arrived."

Mr. Davis selected in all 36 men. The percentage of that number which were disqualified is not known in this office.

PEPPERMAN.

MEMORANDUM OF MR. COOLEY FOR THE SECRETARY OF WAR.

Section 1 of civil-service rule II, as promulgated by the President on April 15, 1903, and still in force, defines the classified civil service as follows:

"The classified service shall include all officers and employees in the executive civil service of the United States heretofore or hereafter appointed or employed in positions now existing or hereafter to be created, of whatever function or designation, whether compensated by a fixed salary or otherwise, except persons employed merely as laborers and persons whose appointments are subject to confirmation by the Senate."

In the opinion of the Civil Service Commission the employees of the Isthmian Canal Commission were subject to the rules governing the classified service as soon as the act creating the Isthmian Canal Commission was passed. The Civil Service Commission therefore communicated with the Isthmian Canal Commission with a view of ascertaining what modifications the latter Commission might desire to the sweeping terms of the classification contained in the rule above quoted.

On November 7, 1904, Admiral Walker, chairman of the Isthmian Canal Commission, submitted to the Civil Service Commission a statement of the desired modifications. The Civil Service Commission also drew up a form of order and submitted it to the Isthmian Canal Commission, and on November 14 Admiral Walker replied, approving the proposed order, which was submitted to the President and signed by him on November 15, 1904. On December 12, 1904, the President authorized the Civil Service Commission, in cases where no register had been established, to allow appointments without examination, in view of the necessity of filling vacancies immediately. This authorization has, with the permission of the President, been construed as covering also cases where eligible registers existed from which, in the judgment of the Commission, suitable selections could not be made.

Early in December, 1904, Commissioner Greene and Mr. C. L. Snyder, chief of the examining division of the Civil Service Commission, visited the Isthmus

of Panama, and, after conference with Mr. Wallace, certain regulations were adopted and a local board of examiners was organized on the Isthmus. These regulations, although adopted, were never actually put in force, and the local board never discharged any duties. On March 24, 1905, Mr. D. I. Murphy, secretary of the Isthmian Canal Commission, addressed a letter to the president of the Civil Service Commission, transmitting a letter of the assistant secretary of the Isthmian Canal Commission and of Chief Engineer Wallace complaining of the delay of the Civil Service Commission in filling requisitions for certifications. The Commission replied on March 24, showing that it was issuing certificates to fill vacancies as rapidly as the appointment clerk of the Isthmian Canal Commission could handle the papers, and that at the time the letter of the secretary of the Canal Commission was received there were held ready for delivery at the office of the Civil Service Commission certifications for filling 116 vacancies.

These papers were merely awaiting the convenience of the appointment clerk of the Isthmian Canal Commission, who had asked that no more papers be sent to him until he had disposed of the accumulation on hand in his office, indicating that the delay was due to the appointment division of the Isthmian Canal Commission and not to the Civil Service Commission.

No further complaint was received until August 30, 1905, when the President transmitted to the Civil Service Commission a letter from Chief Engineer Stevens to Chairman Shonts, in which Mr. Stevens said in part as follows: "Something must be done immediately to correct the abuses under which we are and have been for some time, I judge, suffering. I refer to the character of the men who are being sent down here, largely, I understand, from selections approved by the Civil Service Commission. I do not believe 10 per cent of the men who pass these examinations have any qualifications whatever pertaining to the jobs they are selected for."

The following day Commissioner Cooley called on Mr. Shonts, and stated that the Civil Service Commission was willing at any time to recommend that any or all positions on the Isthmus should be excepted from the requirements of the civil-service rules if the Isthmian Canal Commission so wished. Mr. Shonts stated that he preferred that the service should remain classified provided he could get the right kind of men through the machinery of the Civil Service Commission. The attitude of the Civil Service Commission was then and always has been that its machinery was at the disposal of the Isthmian Canal Commission provided the latter body wished to make use of it, and that any exceptions desired by the Isthmian Canal Commission on the Isthmus of Panama would be recommended by the Civil Service Commission.

On January 12, 1906, the President amended the original order of classification by excepting all positions on the Isthmus except those of clerk, bookkeeper, stenographer, typewriter, surgeon, physician, trained nurse, and draftsman. As nearly as can be ascertained from the reports of changes furnished by the Isthmian Canal Commission, there were 4,541 persons in the canal service above the grade of mere laborer, or unskilled workman, on February 10, 1906. The Commission is unable to determine from the reports covering the period since July 1 how many appointments have been made to positions excepted from examination under the rules; but assuming that the percentage is about the same as prior to that date (22 per cent), 999 of these people may be considered as occupying excepted positions. This leaves a total of 2,542 persons in competitive positions, 463 of whom were brought in through classification on November 15, 1904, so that 3,179 appointments have been made to competitive positions since November 15, 1904. Of these, about 551 have been made through examination, leaving 2,628 appointments to competitive positions without examination.

Of these 2,628 appointments, about 900 have been specifically authorized by the Commission in the absence of registers for such positions, and 115 have been authorized in the presence of such registers, because of some peculiar qualification or experience possessed by the person whom it was desired to appoint. This leaves about 1,613 positions for which the method of appointment is not shown. It is probable that a number of these were made without specific authority of the Commission at a time when some of the Commission's registers, such as that for stenographer and typewriter, had been exhausted. These figures are only approximate, for the reason that the reports from the Isthmian Canal Commission do not give sufficient details in regard to some appointments to enable the Commission to determine exactly their nature. Under the rules prior to the amendment of January 12, 1906, which excepted from examination

all outdoor positions, certain trades positions were excepted from examination when appointments were made of persons on the Isthmus, but were subject to examination when appointments were made from the United States.

The reports of changes do not show where such appointments were made. Since January 12, 1906, when the Executive order was issued excepting from examination all positions except those of clerks, bookkeepers, stenographers, typewriters, surgeons, physicians, trained nurses, and draftsmen, the number of appointments through examination has been relatively very few. Out of 115 of the appointments made during the months of December, 1905, and January, 1906, and up to February 10, 1906, but 51 have been made through examination.

The Civil Service Commission believes that the difficulty in satisfactorily filling vacancies in the Isthmian Canal Commission has been due to two causes:

1. The Isthmian Canal Commission has not found it possible to advise the Civil Service Commission of prospective vacancies in the service and of examinations it was desired that the latter Commission should hold. The Isthmian Canal Commission has been in the habit of making requisitions on the Civil Service Commission for a large number of employees for positions for which no registers are maintained, and insisting on special qualifications that could only be tested by special examinations. The demand was always made that the requisition should be filled immediately, in order that the employees might be sent to the Isthmus at the earliest possible date.

2. Even where registers existed the disposition of all or nearly all of the officials of the Isthmian Canal Commission has been to insist on the appointment of men known to them rather than of those whose names appeared on the eligible registers of the Civil Service Commission. Consequently about 88 per cent of all the employees on the Isthmus of Panama entered the service without passing any civil service examination. It appears that a considerable number of those employed on the Isthmus have not proved satisfactory.

Both Mr. Wallace and Mr. Stevens seem to have fallen into the error of supposing that everyone sent from the United States had passed a civil service examination. (See Mr. Stevens's testimony, p. 53 of the investigation of Panama Canal matters, and Mr. Wallace's testimony, p. 617.) Mr. Stevens's statement is so general that it is impossible for the Civil Service Commission to make any direct reply to it. Mr. Wallace, however, states that he asked for 25 track foremen, and that when these men arrived on the Isthmus, out of the whole twenty-five there were not, in his judgment, two that could drive a railroad spike; and in answers to questions by members of the Senate Committee on Inter-oceanic Canals, he stated that these men came down through civil service examination. The records of the Civil Service Commission disclose the fact that only two persons were appointed from the track-foreman register of the Commission. It is understood that the other twenty-three were selected by one Thomas A. Davis, jr., an employee of the Isthmian Canal Commission, who was appointed June 21, 1904, and blanketed into the civil service by the Executive order of November 15, 1904. He never passed a civil service examination.

The Commission understands that among those selected by Mr. Davis was one William G. Manley, who had been for three years prior to his appointment as track foreman a correspondence clerk for the Metropolitan Life Insurance Company, of New York; another, J. J. Gilroy, was in the last stages of consumption. It is further understood that as a result of this action on his part, Mr. Davis was dismissed from the service of the Isthmian Canal Commission on August 24, 1905. Nevertheless, the persons selected by him are charged up to the Civil Service Commission.

The two men certified by the Civil Service Commission were J. A. Van Hardavelt, of Wyoming, and William Veach, of Pennsylvania. The examination papers of Van Hardavelt show that he was from June, 1897, until March, 1905, practically continuously in the employ of the Union Pacific Railroad Company as track laborer, assistant foreman, and section foreman. The papers of William Veach show that he worked for various railroads in the United States and Mexico for a number of years, and that he had served for five years in the United States Army.

Attention is invited to the fact that at the time the examination for foreman of laborers was held both the Isthmian Canal Commission and the Civil Service Commission were experiencing great difficulty in securing persons with anything like suitable qualifications for service on the Isthmus. The Civil Service Commission accordingly decided to rate papers very leniently, and even to admit those to the examination whose papers showed that they had merely had experience in handling gangs of men and not necessarily in handling such gangs

on excavating work, which was the particular qualification desired by the Isthmian Canal Commission. In transmitting the papers to the Isthmian Canal Commission, however, attention was invited to the exact experience which each eligible had had by means of an abstract attached to the papers. The Isthmian Canal Commission was therefore fully advised of the qualifications of the men.

In spite of broadening the requirements of the examination, it was still found very difficult to secure satisfactory eligibles, and the Isthmian Canal Commission subsequently requested that it might be furnished with the names of all who had applied for examination, whether they had been examined or not.

The only specific complaint the Civil Service Commission has received from Chief Engineer Stevens is contained in a letter addressed to the secretary of the Isthmian civil-service board, dated September 15, 1905, in which he makes the following statement:

"In connection with this whole matter, lest you get mistaken information in regard to the men that are selected purely and simply by the Civil Service Commission, I will give you the following names of incompetent stenographers: James A. Palmer, Henry N. Jenkins, Robert Sinclair, Martin J. J. Leahy, Edwin C. Gabell."

The records of the Civil Service Commission show that none of these men passed a civil-service examination. Palmer never even applied for one. Jenkins, Leahy, and Gabell had filed applications at the Civil Service Commission, but had never been examined. The Isthmian Canal Commission was so anxious to secure stenographers immediately that the office of administration in Washington requested the Civil Service Commission to furnish it with the names and addresses of all those who had applied for the stenographer and typewriter examination for the Isthmian service. Purely as a matter of convenience to the Isthmian Canal Commission the Civil Service Commission furnished the names and addresses of a certain number of those applicants, concerning whom nothing was known further than that they were willing to accept appointment on the Isthmus.

all outdoor positions, certain trades positions were excepted from examination when appointments were made of persons on the Isthmus, but were examination when appointments were made from the United States.

The reports of changes do not show where such appointments. Since January 12, 1906, when the Executive order was issued, examination all positions except those of clerks, bookkeepers, typewriters, surgeons, physicians, trained nurses, and of appointments through examination has been relative of the appointments made during the months of Dec 1906, and up to February 10, 1906, but 51 have been

The Civil Service Commission believes that the filling vacancies in the Isthmian Canal Commission.

1. The Isthmian Canal Commission has not Civil Service Commission of prospective vacancies. It was desired that the latter Canal Commission has been in the habit of Service Commission for a large number of no registers are maintained, and instead only be tested by special examination. The requisition should be filled immediately be sent to the Isthmus at the earliest

2. Even where registers exist, officials of the Isthmian Canal Commission of men known to the eligible registers of the per cent of all the employees without passing any examination. number of those employees.

Both Mr. Wallace and Mr. ... posing that every examination. Canal matters, is so general any direct foremen, a twenty-five spike; an Interoc exam that Com The ap o.

Statement showing requisitions for material and supplies not ordered: Two dated October, 1904; 13 dated November, 1904; 8 dated December, 1904; 9 dated January, 1905; total, 32.

Zone requisition.	Dated.	Date received.	Date advertised.	Date opening.	Particulars.
62A.....	Oct. 25, 1904	No date.	Apr. 19, 1905	May 17, 1905	Private
62A.....	do	do	Jan. 13, 1905	Feb. 7, 1905	Private
62C.....	do	do	do	do	Private
62C.....	do	do	Mar. 21, 1905	Apr. 17, 1905	Private
62C.....	do	do	Apr. 4, 1905	May 2, 1905	Private
63A.....	Nov. 1, 1904	do	Jan. 13, 1905	Feb. 7, 1905	Private
63A1.....	do	do	do	do	Private
63B1.....	do	do	do	do	Private
63C.....	do	do	Mar. 14, 1905	Apr. 14, 1905	Private
63C.....	do	do	Apr. 3, 1905	Apr. 20, 1905	Private
63C.....	do	do	Apr. 13, 1905	Feb. 7, 1905	Private
63C.....	do	do	Dec. 17, 1904	Jan. 18, 1905	Private
63C.....	do	do	Mar. 14, 1905	Apr. 14, 1905	Private
63C.....	do	do	Jan. 13, 1905	Feb. 7, 1905	Private
63C.....	do	do	do	do	Private
63C.....	do	do	Mar. 14, 1905	Apr. 14, 1905	Private
63C.....	do	do	Jan. 13, 1905	Feb. 7, 1905	Private
63C.....	do	do	Mar. 14, 1905	Apr. 14, 1905	Private
63C.....	do	do	Jan. 13, 1905	Feb. 7, 1905	Private
63C.....	do	do	do	do	Private
63C.....	do	do	Apr. 15, 1905	May 12, 1905	Private
63C.....	do	do	Apr. 13, 1905	Feb. 7, 1905	Private
63C.....	do	do	Jan. 20, 1905	Feb. 18, 1905	Private
63C.....	do	do	Apr. 25, 1905	May 22, 1905	Private
63C.....	do	do	Mar. 21, 1905	Apr. 19, 1905	Private
63C.....	do	do	Jan. 20, 1905	Feb. 21, 1905	Private
63C.....	do	do	Jan. 13, 1905	Feb. 7, 1905	Private
63C.....	do	do	Mar. 14, 1905	Apr. 14, 1905	Private
63C.....	do	do	Mar. 21, 1905	Apr. 19, 1905	Private
63C.....	do	do	do	do	Private
63C.....	do	do	Mar. 16, 1905	Feb. 14, 1905	Private
63C.....	do	do	Feb. 4, 1905	Apr. 18, 1905	Private
63C.....	do	do	Mar. 21, 1905	Apr. 19, 1905	Private
63C.....	do	do	Apr. 20, 1905	May 18, 1905	Private
63C.....	do	do	Feb. 8, 1905	Mar. 9, 1905	Private
63C.....	do	do	Apr. 4, 1905	May 2, 1905	Private
63C.....	do	do	Mar. 8, 1905	Apr. 3, 1905	Private
63C.....	do	do	Jan. 20, 1905	Feb. 18, 1905	Private

*Statement showing requisitions for material and supplies on hand in purchasing district,
June 1, 1905, being the date Mr. D. W. Ross assumed the duties of general*

Zone requi- sition.	Dated.	Date received.	Date adver- tised.	Date opening.	Date awards.	
162A.....	Oct. 28, 1904	No date.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Printing press and material.
174A.....	Nov. 22, 1904	do.....	do.....	do.....	do.....	Do.
329C.....	Feb. 23, 1905	Mar. 10, 1905	Apr. 18, 1895	May 15, 1905	Aug. 1, 1905	Palms and olla, beeswax, alcohol, borax cement, putty, tallow, sulphur, etc.
330D.....	Mar. 14, 1905	Mar. 24, 1905	Apr. 19, 1905	May 17, 1905	June 7, 1905	Office safes.
332C.....	Mar. 7, 1905	Mar. 16, 1905	Apr. 18, 1905	May 16, 1905	Aug. 1, 1905	Sanitary fixtures and roughing material, oakum
333C.....	do.....	do.....	Apr. 15, 1905	May 12, 1905	July 18, 1905	Kitchen ranges and kitchen utensils.
335C.....	do.....	do.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Door hardware, etc.
339C.....	do.....	do.....	Apr. 15, 1905	May 12, 1905	June 12, 1905	Tackle blocks, rivets, bolts, iron washers, etc.
337C.....	do.....	Mar. 24, 1905	Apr. 19, 1905	May 17, 1905	June 7, 1905	Linooleum (500 yards).
337C.....	do.....	Mar. 16, 1905	Apr. 19, 1905	May 17, 1905	July 10, 1905	Pipe and pipe fittings, hardware, iron buckets, packing, cotton waste, soap, pig lead, tin, solder, boiler plates, metals, bar iron and steel, wire, brass rod, bath brick, ground glass, etc.
337C.....	do.....	Mar. 21, 1905	May 1, 1905	May 24, 1905	July 10, 1905	Coke (5,000 bushels).
339C.....	do.....	do.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Cotton duck (3,000 yards).
339C.....	do.....	do.....	May 3, 1905	May 26, 1905	July 10, 1905	Nails, cutters, screws, oil cans, manila rope, wire rope, oakum, etc.
340D.....	May 17, 1905	May 31, 1905	June 24, 1905	July 24, 1905	June 12, 1905	Destructor (or incinerator).
344C.....	Mar. 11, 1905	Mar. 24, 1905	Apr. 18, 1905	May 16, 1905	June 6, 1905	Lumber-dressed decking.
344C.....	do.....	do.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Track tools of all kinds, large quantities.
344C.....	do.....	do.....	May 3, 1905	May 26, 1905	July 10, 1905	Tarpaulins.
346C.....	Mar. 13, 1905	do.....	do.....	do.....	do.....	Force pumps.
347C.....	Mar. 15, 1905	do.....	do.....	do.....	do.....	Copper-wire screening (50,000 yards).
348A.....	Feb. 14, 1905	Mar. 2, 1905	do.....	do.....	do.....	Railroad tools of all kinds, saws, jacks, equipment for bridge gang and section gang, etc.
351A.....	Feb. 18, 1905	do.....	Apr. 3, 1905	May 1, 1905	June 16, 1905	Pneumatic machinery, machine-shop equipment, etc.
351C.....	Mar. 21, 1905	Mar. 30, 1905	Apr. 25, 1905	May 22, 1905	July 14, 1905	General office and desk supplies.
351C.....	do.....	do.....	May 3, 1905	May 26, 1905	July 10, 1905	Tents.
352C.....	do.....	do.....	do.....	do.....	do.....	Office furniture.
354A.....	Feb. 25, 1905	Mar. 10, 1905	Apr. 18, 1905	May 15, 1905	Aug. 1, 1905	Floor varnish.
354A.....	do.....	do.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Buckeye lights.
354C.....	Mar. 29, 1905	Apr. 6, 1905	do.....	do.....	do.....	Passenger wagonettes, harness, etc.
356A.....	Feb. 21, 1905	Mar. 10, 1905	Apr. 18, 1905	May 16, 1905	June 6, 1905	Crescoted wharf timber.
358A.....	do.....	do.....	Apr. 15, 1905	May 12, 1905	June 12, 1905	Iron bolts and washers.
359C.....	Apr. 4, 1905	Apr. 13, 1905	May 3, 1905	May 26, 1905	July 10, 1905	Feather pillows, lamps, etc.
360A.....	Feb. 23, 1905	Mar. 10, 1905	Apr. 18, 1905	May 15, 1905	Aug. 1, 1905	Oils and sulphur.
360A.....	do.....	do.....	Apr. 15, 1905	May 12, 1905	June 12, 1905	Carpenter's tools.
360A.....	do.....	do.....	Apr. 16, 1905	May 23, 1905	June 10, 1905	Tents and cotton duck.
362C.....	Apr. 7, 1905	Apr. 17, 1905	May 3, 1905	May 29, 1905	June 1, 1905	Mules.
362C.....	do.....	do.....	May 6, 1905	May 29, 1905	June 19, 1905	Dump carts and wagons, wheel scrapers, ambulance, and cart harness.
363A.....	Mar. 6, 1905	Mar. 24, 1905	May 8, 1905	May 31, 1905	Aug. 1, 1905	Charcoal, tinmith's supplies, sheet steel, etc.
363A.....	do.....	do.....	Apr. 18, 1905	May 16, 1905	Aug. 1, 1905	Tinmith's supplies.
364A.....	Feb. 25, 1905	Mar. 10, 1905	Apr. 15, 1905	May 12, 1905	July 18, 1905	Cooking stoves.
364A.....	do.....	do.....	do.....	do.....	do.....	Track tools of all kinds, roofing material, tile, lanterns, oils, and miscellaneous supplies.

*This was the remaining quantities desired by the local
authorities in procuring the paper for the Canal Zone.
The quantities were not included in the statement of
requisitions for material and supplies on hand in purchasing district,
June 1, 1905, being the date Mr. D. W. Ross assumed the duties of general*

EXHIBIT 12.

Statement showing requisitions for material and supplies on hand in purchasing department on February 1, 1905, not ordered.

[February 1, 1905, being the date Maj. H. J. Gallagher assumed the duties of purchasing agent.]

Zone requisition.	Dated.	Date received.	Date advertised.	Date opening.	Articles.
162A	Oct. 25, 1904	No date	Apr. 19, 1905	May 17, 1905	Printing press and material.
162A	do	do	Jan. 13, 1905	Feb. 7, 1905	Track jacks.
162C	do	do	do	do	Rubber hose, coal tar, grease, glue, tacking, horseshair.
162C	do	do	Mar. 21, 1905	Apr. 17, 1905	Sheet steel (152,070 pounds).
162C	do	do	Apr. 4, 1905	May 2, 1905	White lead (100,000 pounds).
165A	Nov. 1, 1904	do	Jan. 13, 1905	Feb. 7, 1905	Patch bolts.
165A1	do	do	do	do	Pneumatic tools, machine-shop equipment, pipe tools, files, valves, cotton waste, oils, packing, belting, etc.
165B1	do	do	Mar. 14, 1905	Apr. 14, 1905	Washstand toilet set.
165C	do	do	Apr. 3, 1905	Apr. 20, 1905	Potatoes and onions.
168A	Nov. 8, 1904	do	Jan. 13, 1905	Feb. 7, 1905	Carpenters' tools.
168A1	do	do	Dec. 17, 1904	Jan. 18, 1905	Plumbing material and tools. (Awarded about Feb. 14, 1905.)
168B1	do	do	Mar. 14, 1905	Apr. 14, 1905	Household furniture and furnishings.
171A	Nov. 14, 1904	do	Jan. 13, 1905	Feb. 7, 1905	Wooden pulleys, cars, rope, brass spindles, etc.
171Aa	do	do	do	do	Carpenter's drill bits.
171C	Nov. 15, 1904	do	Mar. 14, 1905	Apr. 14, 1905	Furniture for quarters.
174A	Nov. 22, 1904	do	Jan. 13, 1905	Feb. 7, 1905	Machine-shop equipment.
174A	do	do	Apr. 18, 1905	May 17, 1905	Printing press and material.
171B1	do	do	Mar. 14, 1905	Apr. 14, 1905	Household furniture and furnishings for detention station.
177A	Nov. 14, 1904	do	Jan. 13, 1905	Feb. 7, 1905	Split wood pulleys.
183A	Dec. 6, 1904	do	do	do	Wick packing.
183B	do	do	do	do	Fire hose, hose nozzles.
183B2	do	do	Apr. 15, 1905	May 12, 1905	Kitchen range and kitchen utensils.
300A	Dec. 13, 1904	do	Jan. 13, 1905	Feb. 7, 1905	Leather belting, level glasses, cotter keys, hand cars, push cars, rail cars, spare parts for hand cars, etc.
301C	do	do	Jan. 20, 1905	Feb. 18, 1905	Forge.
301C	do	do	Apr. 25, 1905	May 22, 1905	Draftsman's supplies and surveying instruments.
307A	Dec. 29, 1904	Dec. 29, 1904	Mar. 21, 1905	Apr. 19, 1905	Type and printing-press supplies.
312A	Dec. 22, 1904	No date	Jan. 20, 1905	Feb. 21, 1905	Crescented piles.
313A	Dec. 27, 1904	Jan. 6, 1905	Jan. 13, 1905	Feb. 7, 1905	Carpenter's tools, steam hose, metal-marking outfit, etc.
314B	Dec. 22, 1904	do	Mar. 14, 1905	Apr. 14, 1905	Furniture and furnishings for Colon Hospital.
319B	Jan. 3, 1905	Jan. 4, 1905(?)	Mar. 21, 1905	Apr. 19, 1905	Ambulance and harness.
320C	Jan. 10, 1905	No date	do	do	Pipe line wagons.
321A	Jan. 6, 1905	do	do	do	Tamping picks (500).
322A	Jan. 2, 1905	do	Mar. 16, 1905	Apr. 10, 1905	Lumber and piles.
323A	Jan. 5, 1905	do	Feb. 4, 1905	Apr. 18, 1905	Mules.
323A	do	do	Mar. 21, 1905	Apr. 19, 1905	Lumber wagons, steel scrapers, and harness.
324A	Jan. 10, 1905	do	Apr. 20, 1905	May 18, 1905	Powder, fuse, caps, and batteries.
325A	Not dated	Jan. 27, 1905	Feb. 8, 1905	Mar. 9, 1905	Doom, sash, and blinds.
326A	Jan. 7, 1905	do	Apr. 4, 1905	May 2, 1905	Blasting machine.
329A	Jan. 10, 1905	Jan. 20, 1905	Mar. 8, 1905	Apr. 3, 1905	Sanitary fixtures.

From the foregoing statement it will be seen there were on hand February 1, 1905, the following requisitions for material and supplies not ordered: Two dated October, 1904; 13 dated November, 1904; 8 dated December, 1904; 9 dated January, 1905; total, 32.

Statement showing requisitions for material and supplies on hand in purchasing department on June 1, 1905, not ordered.

(June 1, 1905, being the date Mr. D. W. Ross assumed the duties of general purchasing officer.)

Zone requisition.	Dated.	Date received.	Date advertised.	Date opening.	Date awarded.	Articles.
162A.....	Oct. 25, 1904	No date.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Printing press and material.
174A.....	Nov. 23, 1904	do.....	do.....	do.....	do.....	Do.
329C.....	Feb. 23, 1905	Mar. 10, 1905	Apr. 18, 1895	May 10, 1905	Aug. 1, 1905	Paints and oils, beeswax, alcohol, borax, glue, glycerine, chloride of lime, rubber, cement, putty, tallow, sulphur, etc.
330D.....	Mar. 14, 1905	Mar. 24, 1905	Apr. 19, 1905	May 17, 1905	June 7, 1905	Office supplies.
332C.....	Mar. 7, 1905	Mar. 16, 1905	Apr. 18, 1905	May 15, 1905	Aug. 1, 1905	Sanitary fixtures and roughing material, oakum, solder, and pig lead.
333C.....	do.....	do.....	Apr. 18, 1905	May 12, 1905	July 18, 1905	Kitchen ranges and kitchen utensils.
335C.....	do.....	do.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Barbed wire, etc.
337C.....	do.....	Mar. 24, 1905	Apr. 13, 1905	May 12, 1905	June 7, 1905	Tackle blocks, rivets, bolts, iron washers, etc.
337C.....	do.....	Mar. 16, 1905	Apr. 19, 1905	May 17, 1905	June 7, 1905	Lime (400 yards).
337C.....	do.....	Mar. 16, 1905	Apr. 19, 1905	May 17, 1905	June 7, 1905	Pipe and pipe fittings, hardware, iron buckets, packing, cotton waste, soap, pig lead, tin, solder, boiler plates, metals, bar iron and steel, wire, brass rod, bath brick, ground glass, etc.
339C.....	do.....	do.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Coke (5,000 bushels).
339C.....	do.....	do.....	May 13, 1905	May 26, 1905	July 10, 1905	Cotton duck (5,000 yards).
340D.....	May 17, 1905	May 31, 1905	Apr. 13, 1905	May 12, 1905	June 12, 1905	Nails, cutters, screws, oil cans, manilla rope, wire rope, oakum, etc.
344C.....	Mar. 11, 1905	Mar. 24, 1905	June 24, 1905	July 24, 1905	do.....	Destroyer (or mechanical).
344C.....	do.....	do.....	Apr. 18, 1905	May 16, 1905	June 6, 1905	Lumber-dressed decking.
344C.....	do.....	do.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Track tools of all kinds, large quantities.
345C.....	Mar. 13, 1905	do.....	May 3, 1905	May 28, 1905	July 10, 1905	Tar-paulins.
347C.....	Mar. 13, 1905	do.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Force pumps.
348A.....	Feb. 14, 1905	Mar. 2, 1905	do.....	do.....	do.....	Copper-wire screening (50,000 yards).
351A.....	Feb. 18, 1905	do.....	Apr. 8, 1905	May 1, 1905	June 16, 1905	Railroad tools of all kinds, saws, jacks, equipment for bridge gang and section gang, etc.
351C.....	Mar. 21, 1905	Mar. 30, 1905	Apr. 23, 1905	May 22, 1905	July 14, 1905	Pneumatic machinery, machine-shop equipment, etc.
351C.....	do.....	do.....	May 3, 1905	May 28, 1905	July 10, 1905	General office and desk supplies.
352C.....	do.....	do.....	do.....	do.....	do.....	Tents.
354A.....	Feb. 25, 1905	Mar. 10, 1905	Apr. 18, 1905	May 15, 1905	Aug. 7, 1905	Office furniture.
354A.....	Mar. 28, 1905	Apr. 6, 1905	Apr. 19, 1905	May 17, 1905	June 7, 1905	Floor varnish.
358A.....	Apr. 21, 1905	Apr. 30, 1905	Apr. 18, 1905	May 16, 1905	June 6, 1905	Buckeye lights.
358A.....	do.....	do.....	Apr. 18, 1905	May 16, 1905	June 6, 1905	Passenger wagonettes, harness, etc.
358C.....	Apr. 4, 1905	Apr. 13, 1905	May 3, 1905	May 26, 1905	June 12, 1905	Cross-cut wharf timber.
360A.....	Feb. 23, 1905	Mar. 10, 1905	Apr. 18, 1905	May 16, 1905	July 10, 1905	Iron bolts and washers.
360A.....	do.....	do.....	Apr. 18, 1905	May 16, 1905	July 10, 1905	Feather pillows, lamps, etc.
360A.....	do.....	do.....	Apr. 18, 1905	May 28, 1905	June 12, 1905	Oils and sulphur.
360A.....	do.....	do.....	May 3, 1905	May 28, 1905	July 10, 1905	Carpenter's tools.
362C.....	Apr. 7, 1905	Apr. 17, 1905	May 6, 1905	May 29, 1905	June 13, 1905	Tents and cotton duck.
362C.....	do.....	do.....	May 6, 1905	May 29, 1905	June 13, 1905	Mules.
363A.....	Mar. 6, 1905	Mar. 24, 1905	May 8, 1905	May 31, 1905	June 14, 1905	Pump carts and wagons, wheel scrapers, ambulance, and cart harness.
363A.....	do.....	do.....	Apr. 18, 1905	May 16, 1905	Aug. 7, 1905	Charcoal, tinsmith's supplies, sheet steel, sheet lead, etc.
363A.....	do.....	do.....	Apr. 18, 1905	May 16, 1905	July 18, 1905	Tinsmith's supplies.
364A.....	Feb. 25, 1905	Mar. 10, 1905	do.....	do.....	do.....	Cooking stoves.
364A.....	do.....	do.....	Apr. 19, 1905	May 17, 1905	June 7, 1905	Track tools of all kinds, roofing material, tile, lanterns, oils, and miscellaneous supplies.

Statement showing requisitions for material and supplies on hand in purchasing department on June 1, 1905, not ordered.—Continued.

Zone requisition.	Dated.	Date received.	Date advertised.	Date opening.	Date awards.	Articles.
364A.....	Feb. 25, 1905	Mar. 10, 1905	May 3, 1905	May 26, 1905	July 10, 1905	Refrigerators.
365A.....	do	do	Apr. 13, 1905	May 12, 1905	June 12, 1905	Plumbing tools, etc.
366A.....	Feb. 24, 1905	do	Apr. 18, 1905	May 16, 1905	June 6, 1905	Rough lumber.
367A.....	Mar. 23, 1905	Mar. 16, 1905	Apr. 15, 1905	May 12, 1905	June 12, 1905	Carpenter's tools.
368A.....	Mar. 1, 1905	do	May 4, 1905	May 27, 1905	June 13, 1905	Bolt cutters.
370A.....	do	do	Apr. 18, 1905	May 1, 1905	Aug. 1, 1905	Pipe and pipe fittings, pipe tools, graphite, etc.
373A.....	Mar. 11, 1905	Mar. 24, 1905	Apr. 15, 1905	May 12, 1905	June 12, 1905	Railroad shovels and linen hose.
375A.....	Mar. 14, 1905	do	do	do	do	Lumber wagons, steel scrapers, railroad plows, mule shoes, harness, etc.
376A.....	do	do	Apr. 15, 1905	May 12, 1905	July 18, 1905	Railroad water tanks.
377C.....	May 8, 1905	May 17, 1905	May 29, 1905	June 12, 1905	do	Kitchen equipment for Ancon Hospital.
378A.....	Mar. 14, 1905	Mar. 30, 1905	Apr. 15, 1905	May 12, 1905	June 12, 1905	Leather belting and belt hooks.
380A.....	Mar. 27, 1905	Apr. 6, 1905	May 1, 1905	May 24, 1905	July 10, 1905	Carpenter's tools.
384A.....	do	do	May 3, 1905	May 26, 1905	do	Wrought-iron pipe, pipe fittings, red lead, and such tool brushes.
382A.....	Mar. 28, 1905	Apr. 13, 1905	May 4, 1905	May 27, 1905	July 13, 1905	Wrought-iron pipe, pipe fittings, water meters, steam pumps, valves, boilers, hose, hose reels, fire extinguishers, etc.
382C.....	May 13, 1905	May 25, 1905	June 13, 1905	June 22, 1905	do	Platform scales, wagons, car replacers, timber carriers, tools, etc.
383A.....	Mar. 30, 1905	Apr. 13, 1905	May 4, 1905	May 27, 1905	June 13, 1905	Pipe, pipe fittings, and hydrants for Colon water supply.
392A.....	Apr. 12, 1905	Apr. 27, 1905	do	May 27, 1905	June 13, 1905	Iron pipe, pipe fittings, valves, and hydrants.
409A.....	May 8, 1905	May 17, 1905	June 19, 1905	July 19, 1905	do	Pumps and engines for use at Cristobal.
412A.....	May 2, 1905	May 25, 1905	do	do	do	Pumps and boilers for Colon waterworks.
418A.....	May 19, 1905	May 31, 1905	June 14, 1905	July 10, 1905	do	Sanitary fixtures and roughing material, hardware, oil, rope, cotton duck, cotton waste, lumber carriers, wheelbarrows, shovels, switch stands, hydraulic jacks, pile-driver hammers, pitch, etc.
418A.....	do	do	June 19, 1905	July 19, 1905	do	Holding engines and boilers for use at Cristobal.
415A.....	May 16, 1905	May 31, 1905	June 23, 1905	July 3, 1905	do	Rowboats and oars.
(a)	Feb. 3, 1905	do	Apr. 15, 1905	May 10, 1905	June 7, 1905	Boiler and engine appliances, pipe and pipe fittings, pipe tools, saws, boats, iron washers, steel brushes, axes, hammers, oil cans, hinges, emery cloth, etc.
(a)	May 10, 1905	do	May 27, 1905	June 7, 1905	do	Earth spreaders, unloading machines, and unloading plows.
(a)	do	do	May 22, 1905	June 15, 1905	do	Horses.
(a)	Mar. 8, 1905	do	May 25, 1905	June 24, 1905	do	Dredging harbor at Colon.
(a)	May 11, 1905	do	May 31, 1905	June 30, 1905	do	Paving brick (3,000,000).
(b)	May 10, 1905	do	June 6, 1905	June 26, 1905	do	Tugboats.
(c)	May 22, 1905	do	May 22, 1905	June 20, 1905	do	Furnishings for quarters of married employees, comprising ranges, refrigerators, and standing furniture for parlor, dining room, kitchen, and bedroom, etc.
						Bituminous coal (50,000 tons).

a Letter, chief engineer.

b Letter, general quartermaster.

c Letter, chief office, by direction chairman.

From the foregoing statement it will be seen that there were on hand June 1, 1905, the following requisitions for material and supplies not ordered: One dated October, 1904; 1 dated November, 1904; 11 dated February, 1905; 24 dated March, 1905; 3 dated April, 1905; 12 dated May, 1905; total, 52.

EXHIBIT 14.

[H. R. 16986, Fifty-eighth Congress, third session.]

AN ACT to provide for the government of the Canal Zone, the construction of the Panama Canal, and for other purposes. •

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the zone of land and land under water of the width of ten miles, extending to the distance of five miles on each side of the center line of the route of the canal to be constructed thereon, which said zone begins in the Caribbean Sea three marine miles from mean low water mark and extends to and across the Isthmus of Panama into the Pacific Ocean to the distance of three marine miles from mean low water mark, excluding therefrom the cities of Panama and Colon and the harbors adjacent to said cities; but including all islands within said described limits, and in addition thereto the group of islands in the Bay of Panama named Perico, Naos, Culebra, and Flamenco, and any lands and waters outside of said limits above described which may be necessary and convenient for the construction, maintenance, operation, sanitation, and protection of the said canal, or of any auxiliary canals or other works necessary and convenient for the construction, maintenance, operation, sanitation, and protection of said enterprise, the use, occupation, and control whereof were granted to the United States by the treaty between the United States and the Republic of Panama, the ratifications of which were exchanged on the twenty-sixth day of February, nineteen hundred and four, shall be hereafter known and described as the Canal Zone, and the canal to be constructed thereon shall be known and described as the Panama Canal.

SEC. 2. That until the expiration of the session of the Fifty-ninth Congress, beginning the first Monday of December, nineteen hundred and five, unless other provision be sooner made by Congress, all the military, civil, and judicial powers of the United States in said the Canal Zone at Panama, including the power to make and enforce all rules and regulations necessary for the government of the Canal Zone, and all the rights, powers, and authority granted by the terms of the treaty aforesaid to the United States shall be vested in the President of the United States and may be by him to the United States by the terms of the treaty between the United States and the Republic of Panama, the ratifications of which were exchanged on the twenty-sixth day of February, nineteen hundred and four, are vested in such person or persons, and shall be exercised in such manner, as the President shall direct for the government of said Canal Zone and maintaining and protecting the inhabitants thereof in the free enjoyment of their liberty, property, and religion.

SEC. 3. That the President, through one of the Executive Departments of the Government to be designated by him, or otherwise in his discretion, shall cause to be excavated, constructed, and completed in said Canal Zone a ship canal between the Caribbean Sea and the Pacific Ocean, utilizing to that end, as far as practicable, the work heretofore done by the New Panama Canal Company of France and its predecessor company. Such canal shall be of sufficient capacity and depth as shall afford convenient passage for vessels of the largest tonnage and

greatest draft now in use, and such as may be reasonably anticipated, and shall be supplied with all necessary locks and other appliances to meet the necessities of vessels passing through the same from ocean to ocean; and he shall also cause to be constructed such safe and commodious harbors at the termini of said canal and make such provision for defense as may be necessary for the safety and protection of said canal and harbors; and he shall also, whenever the right so to do has been acquired, cause the Panama Railroad and the property and rights appertaining thereto to be managed and operated in such manner as may be deemed desirable. The President is hereby authorized, for the purposes described in this Act, to appoint and employ such persons with such official designations, as he may deem necessary from time to time, and to dismiss the same, and to fix their compensation until such time as Congress may by law regulate the same; and the President is further authorized to employ and assign such officers with suitable equipment as may, in his discretion, be necessary and proper to carry out the purposes of this Act, and to fix the compensation for the same until Congress may by law otherwise provide.

SEC. 42. That the President shall annually, and at such other periods as may be provided, either by law or by his order, *or by either House of Congress*, require full and complete reports to be made to him by the persons appointed or employed by him in charge of the government of said Canal Zone, the construction of *said the* Panama Canal, and the operation of *said the* Panama Railroad, including an itemized account of all moneys received and expended, which said reports shall be by the President transmitted to Congress *or to either House thereof, as may be requested*. And any of the persons appointed or employed by the President in connection with the said government or the said work of construction or operation shall give to Congress or to either House of Congress such information as may at any time be required either by Act of Congress or by the order of either House of Congress in relation to their respective actings and doings and the receipt and expenditure of money. The President shall annually cause to be made, by the persons appointed and employed by him in charge of the government of said Canal Zone and the construction of said canal, estimates of expenditures and appropriations, in detail as far as practicable, which estimates shall be submitted to Congress in the manner provided in section five of the Act entitled "An Act making appropriations for the legislative, executive, and judicial expenses of the Government for the fiscal year ending June thirtieth, nineteen hundred and two, and for other purposes." And after the thirtieth day of June, nineteen hundred and six, no money shall be expended for any of the purposes named in this Act except in accordance with appropriations hereafter made by Congress, ~~except that the moneys received, in the ordinary course of business, from the operation of the Panama Railroad and the property and rights appertaining thereto may be expended, so far as necessary, in defraying the expenses of such operation, including maintenance, without being covered into the Treasury of the United States, and such moneys are hereby appropriated for such purpose, and monthly reports of such receipts and expenditures shall be made to the President by the person or persons in charge.~~ All income at any time received by the United States from rentals, dividends, or otherwise in respect of any property now possessed or hereafter acquired in connection with the canal, the railroad, or other

works, shall be turned into and credited to the fund for the construction of said canal and works.

~~SEC. 5. That so much of the Act entitled "An Act to provide for the construction of a canal connecting the waters of the Atlantic and Pacific oceans," approved June twenty-eighth, nineteen hundred and two, as provides for the appointment of the Isthmian Canal Commission, and fixing its duties and powers, is hereby repealed.~~

SEC. 6 3. That whereas the Panama Railroad Company is a domestic corporation of the State of New York, organized and existing under and by virtue of the laws of said State with principal place of business in the city of New York in said State; and whereas the corporate stock of said Panama Railroad Company is divided into seventy thousand shares of the face value of one hundred dollars each, and the United States now owns sixty-eight thousand nine hundred and sixty-four shares thereof of the face value of six million eight hundred and ninety-six thousand four hundred dollars, leaving a balance of one thousand and thirty-six shares of the face value of one hundred and three thousand six hundred dollars still subject to private ownership; and whereas the public use *and necessity* requires for the accomplishment of the public work and national endeavor entered upon pursuant to the Act of Congress approved June twenty-eighth, nineteen hundred and two, entitled "An Act to provide for the construction of a canal connecting the waters of the Atlantic and Pacific oceans," that the United States should own and control all of the shares of the corporate stock of the Panama Railroad Company: Now, therefore, be it further enacted that the President of the United States is hereby authorized to cause to be instituted in the name and for and on behalf of the United States, and as an exercise of the right of eminent domain, judicial proceedings to condemn for public use the share or shares of the corporate stock of the Panama Railroad Company owned by any person, corporation, association, or concern other than the United States of America.

SEC. 7 4. That exclusive jurisdiction to maintain, conduct, hear, and determine said proceedings, effect the sale, transfer, and conveyance of said property, and enter and enforce final judgment and decree therein, is hereby conferred upon the United States district court for the southern district of the State of New York.

SEC. 8 5. That the condemnation proceedings herein provided for shall be instituted and conducted in the name of the United States of America. Said condemnation proceedings shall be against the person or persons, corporation, association, firm, or other concern owning said stock or having an interest therein, if such owner or party in interest is known, and also the person or persons, corporation, association, firm, or other concern in whose name or names the share or shares of stock sought to be condemned stand on the stock register of the Panama Railroad Company, all of whom may be joined in one proceeding. The proceedings may be instituted by filing in said court a petition setting forth the general purpose of the action, a description of the property sought to be condemned for the public use, the serial number of the stock certificates issued by the Panama Railroad Company for the stock sought to be subjected to the proceedings, and prayer for judgment and decree of condemnation of the property and transfer of right and title thereto to the United States.

SEC. 9 6. That notice of the commencement and pendency of said proceedings shall be given the owner or owners of said corporate stock

by service, as follows: The clerk of the court shall issue a notice under his seal setting forth the character of the proceedings, the court in which the proceedings are instituted and pending, the serial number of the stock certificate, and the number of shares of stock sought to be affected; said notice shall fix and set forth a date not less than sixty days from the date on which said notice is issued, on which date the United States will apply to the court for the appointment of appraisers of said stock, and deliver said notice to the marshal of the court, who shall serve the same, as follows: If a stockholder named as a defendant is found in said judicial district, there shall be delivered to and left with him a copy of said notice, with a copy of the petition attached; if a stockholder named as a defendant has his usual place of residence in said judicial district, service of said notice may be had by leaving a copy of the notice, with copy of the petition attached, at such place of residence. A copy of said notice, with copy of the petition attached, shall be delivered to and left with the president of said Panama Railroad Company or other managing officer in charge of the general office of said railroad company in the city and State of New York. Said notice shall also be published in one issue of each week for four consecutive weeks in two daily newspapers of general circulation in said judicial district. The marshal shall make due return within thirty days of his action respecting said notice. If it shall appear from the marshal's return that he was unable to secure service on the defendants, or any of them, within said judicial district, by delivering a copy of said notice to such defendant or defendants, or by leaving such copy at their usual place of residence, then it shall be sufficient for the jurisdiction of the court to attach if it shall appear that a copy of said notice, with copy of the petition attached, has been delivered to and left with the president of the Panama Railroad Company or other managing officer in charge of the general office of said railroad company in the city and State of New York, and also that publication of said notice has been made as herein provided. On the date set forth in said notice for that purpose, if the court be in session, and, if not, then on the first day of the next subsequent convening of the court, the court shall appoint three appraisers who, before entering upon the performance of their duties, shall take and subscribe an oath before the clerk of the court wherein the proceedings are instituted that they will each support the Constitution of the United States and will faithfully perform their duties as appraisers, which oath shall be filed in the court. Evidence of the value of the property sought to be condemned may be presented by either party before the appraisers upon ~~reasonable~~ *such* notice to the opposite party *as the court shall prescribe*, and for this purpose the appraisers may subpoena witnesses and compel their attendance and compel the production of books and papers. The appraisers shall assess the value of said stock and shall forthwith make full and accurate report to the court, in writing, of all proceedings under said appointment, but none of their proceedings shall be effectual to bind the property or transfer the title until the court shall have accepted said report and rendered judgment thereon. Upon the filing of such report in court, the court shall, upon hearing, *such notice as the court shall direct being first given to the opposite party*, at a time and place to be fixed by the court, accept the same and render judgment in accordance therewith, or for cause shown, the court may recommit the report to the appraisers for further report of facts; or it may accept the report in part and reject or recommit in part, and may make such

order and judgment as shall secure to the United States the title to the corporate stock and to the defendant or defendants just compensation for the property so taken and the title transferred and the judgment shall require payment to the defendant or defendants or into court of the amount fixed as compensation before the United States can appropriate said stock to the public use. Upon payment by the plaintiff to the defendant or defendants, or deposit in court, of the amount of compensation as fixed by the judgment of the court and the deposit of a sufficient amount to be fixed by the court for the payment of the costs of the proceedings, the court shall enter final judgment and decree transferring the title of said stock to which the proceedings relate, from the prior owner or owners to the United States, and further ordering and decreeing the proper officers of the Panama Railroad Company to issue to the United States new certificates for the stock so transferred to the United States, and said court is hereby authorized to enforce such order by proceedings as for contempt. When the amount of such appraisal so determined shall have been paid or deposited, as provided in this section, the stockholder or stockholders whose stock shall have been so appraised shall cease to have any interest therein and shall surrender all certificates for such stock, with duly executed powers of attorney for transfer thereon, to the United States. In case the compensation is deposited in court, the payment shall be made to the clerk of the court and shall be retained by him subject to the order of the parties entitled thereto upon the delivery to said clerk of the original stock certificates for the stock to which the proceeding relates. And the clerk of the court shall be compelled to receive such deposit of money and shall be responsible on his bond therefor. If the judgment of condemnation shall be given as to stock which is subject to a mortgage, annuity, or other lawful lien, the amount of compensation shall be apportioned between the owner and the lien holder, as the court shall determine their several interests require.

Sec. 7. That to enable the United States to secure at all times a sufficient supply of money to meet the necessities of the Government on said Canal Zone, the President is hereby authorized to deposit such sum of money as he may deem sufficient for said purposes, not to exceed one million five hundred thousand dollars, of any sums appropriated for canal purposes, in some bank or banks in the United States having a fiscal agent on the Isthmus of Panama, to be selected by the President: Provided, That such deposit shall be on terms which shall preserve the title to said money in the United States, enable the United States to withdraw said funds from said deposit at any time, and proper and sufficient security be given by the bank of deposit for the return of said money or the lawful accounting therefor.

[S. R. 114, Fifty-eighth Congress, third session.]

JOINT RESOLUTION to continue in force the provisions of section two of "An Act to provide for the temporary government of the Canal Zone at Panama, the protection of the canal works, and for other purposes," approved April twenty-eighth, nineteen hundred and four.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the provisions of section two of "An Act to provide for the temporary government of the

Canal Zone at Panama, the protection of the canal works, and for other purposes," approved April twenty-eighth, nineteen hundred and four, be, and are hereby, continued in force until the expiration of the session of the Fifty-ninth Congress beginning the first Monday in December, nineteen hundred and five, unless other provision be sooner made by Congress.

EXHIBIT 13.

INSTRUCTIONS.

You will proceed to Panama and investigate the sanitary conditions obtaining on the canal strip.

For any deficiencies, as measured by the standard of sanitary accomplishment in Habana in 1901, you will endeavor to fix the responsibility.

In so doing you will endeavor to ascertain to what extent any sanitary shortcomings which may be found to exist are due:

- (1) To mistakes or shortcomings of the sanitary personnel.
- (2) To defective organization of the sanitary department, including possible lack of sufficient autonomy.
- (3) To lack of necessary cooperation or assistance in plans or supplies on the part of the Commission or its agents.

You will on your arrival report to General Davis, show him these instructions and call on him for whatever may be necessary in the way of information or assistance in obtaining the same.

Excepting General Davis, the chief engineer, and Colonel Gorgas, you will neither exhibit these instructions nor acquaint anyone with the true object of your mission.

WM. H. TAFT.

Maj. CHARLES F. MASON,

Surgeon, U. S. Army, War Department, Washington, D. C.

WAR DEPARTMENT,
OFFICE OF THE SURGEON-GENERAL.
Washington, February 17, 1905.

The SECRETARY OF WAR,
Washington, D. C.

SIR: I have the honor to report that in compliance with your instructions I sailed from New York for the Isthmus of Panama on January 24, and arrived there Tuesday, February 2. I again left Panama Thursday, February 9, having carried out the instructions confided to me.

In making this report I shall endeavor, as far as possible, not to go over again ground which is familiar to you and which is covered by official reports, except when necessary to elucidate my remarks.

The present condition of health of the canal employees is good; with a total of about 5,000 employees less than 3 per cent are in hospital.

With regard to the present outbreak of yellow fever, the following remarks are submitted:

The statistics regarding yellow fever in the city of Panama prior to American occupation show deaths only, as other cases were not reported:

Deaths from yellow fever in Panama—

1901	-----	11
1902	-----	182
1903	-----	48

In the first six months of 1904 (before American occupation) there were 6 deaths.

In the second six months of 1904 (after American occupation) there were 13 cases and 3 deaths.

In January, 1905, there were 18 cases with 6 deaths (including 2 on the *Boston* and 1 in Colon).

Of the total 33 cases, 30 originated in Panama, 3 in Colon.

Of the total 33 cases, 14 were American and 11 were canal employees.

There were no secondary cases, each focus of infection having been promptly stamped out.

The distribution of the Panama cases showed widely scattered infection; all the Colon cases originated at one hotel. The three Colon cases occurred on ship-board en route to Habana and in the persons of steamer passengers detained at Colon on account of smallpox. Had there been proper detention facilities at that point these cases should not have occurred.

The cases on the *Boston* are believed to have been due to a mild and unrecognized case having visited the ship on the occasion of an entertainment given there on the night of December 31, which was largely attended by nonimmunes from Panama. Yellow-fever mosquitoes were breeding abundantly on the ship and probably became infected at that time. The fumigation of the ship promptly stopped the outbreak.

While, considering the previous history of Panama in regard to yellow fever and the large influx of nonimmunes since July 1, the number of cases and deaths has been small, the outbreak becomes important on account of the effect upon public opinion in relation to work to be done on the canal.

The sanitary department of the Canal Zone government is subdivided as follows: A department of hospitals, a maritime quarantine service, a sanitary service for the Canal Zone, and the health departments of Panama and Colon.

DEPARTMENT OF HOSPITALS.

This includes at present actually in operation the hospitals at Ancon and Colon and one emergency hospital at Culebra, the three having a total capacity of 254 beds, all of which are occupied. Additional beds are needed, to supply which the chief sanitary officer has asked for a 100-bed convalescent hospital at Taboga Island and another hospital of about the same capacity at Miraflores. The former has been disallowed for the present; the latter was authorized by Governor Davis about December 1, but through delay in construction and supplies it is not yet ready for use. The Commission has authorized construction at Ancon and Colon, which will give 600 beds, but there is no immediate prospect of the work being done nor any material or personnel available for utilizing them.

Along the line of the canal, at convenient points, are stationed four medical officers with medical supplies, each having charge of a district for emergency work among canal employees.

While the hospital department has about reached the limit of its present capacity, the sick are well cared for, though for lack of wire screening they are not adequately protected against malarial infection.

MARITIME QUARANTINE.

At Panama the arrangements, while not all that could be desired, are believed to afford adequate protection against the introduction of quarantinable diseases from without.

At Colon the arrangements are not so far advanced nor so satisfactory. Though plans have been approved for a detention building, construction has not been commenced. The surveillance of detained suspects at hotels, etc., is difficult and somewhat risky. Notwithstanding these shortcomings, which it is hoped to soon remedy, it is believed that the quarantine service to date has been effective and that no infectious diseases have been introduced through either port.

Immigration.—In this connection the laws of the Canal Zone provide that the chief quarantine officer shall prevent the entrance to the Zone of any person who is likely to prove a menace to the public health or welfare or who is likely to become a charge upon the public. Nothing, however, has been actually done under this law to restrict undesirable immigration.

SANITARY SERVICE OF THE CANAL ZONE.

This service, under a chief sanitary inspector, employed on January 31 about 275 men.

In general it is charged with the duty of cleaning up the settlements of laborers along the Zone, the removal of night soil and garbage, surface drainage, and other antimosquito work. A great deal of valuable work has been done

along the line, but much remains to be done, especially in the matter of screening the dwellings of the canal employees and covering their water barrels with wire gauze. No screening has been done, and while a large number of barrels in some localities have been covered and covers prepared for many more, the work is very far from completion, because no more spigots are available to permit the use of the water.

PANAMA HEALTH OFFICE.

The chief sanitary officer of the Commission has been appointed by the Republic of Panama its health officer for the cities of Panama and Colon. In Panama he has taken charge of the matter of street cleaning, removal of garbage, and general antimosquito work on the lines of that carried out in Habana. Just now the whole city is being fumigated for the destruction of mosquitoes, and the work is expected to be completed by the end of the present month. The cleanliness of the streets, yards, and interior courts has been greatly improved.

COLON HEALTH OFFICE.

Here sanitary work has been confined to garbage removal, a small amount of street cleaning, and a little oiling of water tanks; the results thus far are not very apparent, the city being in a very dirty and unsanitary condition.

In Cristobal, however, where most of the canal employees live, very much more has been accomplished in the way of surface drainage, removal of garbage and night soil, antimosquito work, etc.

In making a comparison of sanitary accomplishment with that at Habana in 1901 the differences in condition must be fully understood. In Habana we had a compact city, with waterworks, which had been under American control for more than two years at the time the antimosquito work was begun; which had been thoroughly cleaned; in which the health and other departments were efficiently organized, and with the chief sanitary officer possessing complete autonomy in the matter of construction, material, and supplies. In Panama everything was different. The sanitary work had to be done in two cities some 50 miles apart and along the intervening strip containing numbers of native villages. There was no organization anywhere, everything had to be started. The two cities at either end of the strip were without adequate water supply, without sewers, without organization of any sort for municipal sanitation, and in an extremely filthy condition. Being at the very commencement of a vast engineering enterprise in which sanitation was only one of the features, it was perhaps natural that it should receive only what was considered its due share of attention, instead of being the principal feature as at Habana.

Colonel Gorgas, the chief sanitary officer, arrived permanently on the Isthmus and began his work about July 1 last. The preliminary plan for sanitary work submitted by him was already in operation to a limited extent. In the months which have followed much has been accomplished as pointed out under the separate headings. In Habana in the same period of time yellow fever was wiped out; here it has not been, though I believe that end will soon be accomplished. In my opinion the diseases would have been eradicated before this time had it been found practicable to adopt in its entirety and carry out promptly the scheme proposed by the chief sanitary officer.

The two diseases which more than any others threaten the success of the canal project are malaria and yellow fever. While malaria is far more important in the amount of disease, death, and invaliding it is likely to cause on the Isthmus, yellow fever is no less important in its indirect bearing. While 50 deaths from malaria might occur without attracting much attention, one-tenth as many from yellow fever would cause a panicky feeling, which would keep away thousands of persons whose services are needed or cause them to demand much higher pay for their services.

In the preliminary plan of organization of the sanitary department submitted in April by Doctors Gorgas, Ross, and La Garde, and which in its general features was approved by the Commission and went into effect in July, 1904. It was proposed to keep out infectious diseases by a quarantine system, to get in touch with all cases of malaria and yellow fever by assuming charge of the sick at Panama and Colon and the canal strip, to detect them early by a system of inspection, and, by screening all acute cases and keeping others under treatment until they were no longer capable of infecting mosquitoes, to prevent the spread of these diseases.

On July 26 the chief sanitary officer, after two months' experience as such, submitted to the Commission a permanent scheme of sanitary organization and read to the Commission an explanatory statement which I deem of so much importance that it is hereto appended, marked "A." In this statement he takes the ground that the cities of Panama and Colon can and should be freed from yellow fever by January, 1905, and the Zone from malarial fever in the same period and before the arrival of the main force of canal employees, but that to accomplish such a result he must be able to work more rapidly than was possible with the delay in material, construction, etc., which had occurred and must occur under the present organization. He further stated that while the health conditions on the Isthmus, with its present small nonimmune population, were about normal, the conditions existed which, if not radically changed, would in time give us the heavy mortality of the French régime. He suggested a remedy in the shape of greater autonomy, with a view to more rapid work, his idea being that the great work of the sanitary department should be done before the active work began in digging the canal. The scheme of organization submitted was an exceedingly able and comprehensive one, and if carried out in its entirety would no doubt have accomplished all that its author hoped for.

To control malaria and yellow fever, besides the general features already outlined, he provided for treating all the sick of the Canal Zone and for the administration of quinine to all those infected with malaria, even though not sick, and this for both employees and nonemployees. This plan, with the anti-mosquito work, would probably have eradicated these diseases. The plan provided for 20 small emergency hospitals, with dispensaries attached, and 20 sanitary inspectors, with the necessary subordinates, distributed in the villages along the Canal Zone, the inhabitants of which were proven to be widely infected with malaria and ready to infect, through the mosquito, the employees of the Canal Commission.

The action taken on this proposed plan and the organization finally adopted is shown in the proceedings of the forty-second meeting of the Isthmian Canal Commission, dated August 28, 1904. In a general way the proposed organization was adopted, but the details were modified in certain very important particulars. The idea of the Commission seems to have been that conditions should be met as they arose, while the vital point in the plans of the chief sanitary officer was prevention rather than cure.

Instead of 20 emergency hospitals and dispensaries and 20 hospitals along the Zone, 3 hospitals and dispensaries, 2 additional dispensaries, and 8 inspectors were allowed, with the proviso for extension when deemed necessary by the Commission. No reference was made to the plan of treating with quinine all the inhabitants of the Zone infected with malaria, and this recommendation was subsequently disapproved by the Commission under date of November 5, 1904. On December 21 the chief sanitary officer explained the importance of this provision in a letter to the Commission, in which he stated that if it was not allowed his ability to combat malaria would be reduced one-half.

In regard to assuming complete sanitary control of the cities of Panama and Colon there was certain legal difficulties of which you know and which were not settled until very recently.

Thus the success of the scheme for the prevention of malaria has been seriously endangered by doing away with one of its most important features, that of treating with quinine all persons dangerous to others by harboring the malarial parasites in the blood. (See Appendix C.) That part of the scheme which provided for the protection of the canal employees by screening their dwellings appears to have received no definite action; nothing has been done toward carrying it into effect.

The defects in the sanitation of the Isthmus, then, are, in my opinion, as follows:

1. Inadequacy of the scheme for the protection of the canal employees against malaria. The scheme as submitted by the chief sanitary officer was adequate, but its modification by the Commission in cutting off the free issue of quinine, not authorizing the screening of the dwellings of canal employees along the strip, and reducing the number of physicians, hospitals, and dispensaries along the line has diminished its value at least one-half.

2. Defective organization of the sanitary department in the lack of sufficient autonomy to carry out its work effectively.

Under the first heading no serious results have followed as yet, but that they will follow all tropical experiences of like undertakings certainly indicates. Under the second heading the result has been to greatly delay the work of the

sanitary department. Many instances might be quoted—a few will suffice. The principal large requisition for medicine and medical supplies was made about the 1st of last August; at this date, February 8, not one item has been received. Other large requisitions made subsequently to this have met the same fate. The governor, General Davis, tells me that these requisitions were approved by him and went forward promptly, and that he has done all in his power to get them filled; what the trouble is he does not know. Meantime, he has bought what was most urgently needed through the local markets. Even articles produced in the local market have sometimes required nearly or quite a month for delivery.*

The estimate for repairs to Ancon hospital was made in July last. Those repairs are not yet completed; to-day, after seven months, only one ward has been screened. But these points are well covered in the letter of the chief sanitary officer, already referred to as appended and marked "A."

I think it may be taken as generally accepted that to dig the canal quickly, economically, and with as little sickness and loss of life as possible, it is necessary that the sanitary work shall be thorough and efficient, and shall accomplish results. If it fails, if the death rate becomes high, especially for yellow fever, it will increase the cost of the canal by millions of dollars and delay its completion by years. I have no doubt that the present small outbreak of yellow fever will add many hundreds of thousands to the cost of the work and materially delay its construction, because there will be a greater unwillingness to come here and higher salaries will be demanded. There is already apparent a panicky feeling widespread among the employees, and this will be reflected in an exaggerated form in the States. The work of the sanitary department is primarily preventive and only secondarily to meet indications as they arise. The important part of that work should have been done before the arrival of the great mass of employees. The defects of the present system and the delays and imperfections of sanitary accomplishment which have resulted therefrom have been pointed out in the foregoing pages.

It seems to me that if the work of the sanitary department is to be successful—and the success of the canal project depends on it—the Commission having selected a chief sanitary officer in whom they have confidence, should accept his plans for sanitation as final, give him a free hand and their earnest support in carrying them out, and hold him strictly responsible for results. What if the chief sanitary officer does spend \$50,000 or \$100,000 that could have been saved under a slower and more restricted method of procedure? The prevention and suppression of epidemic diseases often depend upon quick action, and a week's delay may often cost many hundreds of thousands and delay the work of the canal for long periods. While the figures show that the rate of sickness among canal employees is not excessive at present, there is no reason to hope that such a condition will continue. On the contrary, unless the plans of the sanitary department are more quickly and completely carried out than at present there is every reason to believe that sickness and mortality will increase as the work goes on and time passes, until health conditions not far different from those under the French régime will obtain.

In view of the President's message on the subject of the Commission, and not knowing what the ultimate plan of reorganization may be, I can only make these broad suggestions as to the work of the sanitary department.

A scheme suggested by the chief sanitary officer and hereto appended, marked "B," appears to be an excellent one if it can be made to fit into the general plan. In any case, the scheme should be such that measures recommended and requisitions made by the chief sanitary officer may be acted on promptly and executed without delay. To effect this it would seem to be necessary that the final authority should reside on the Isthmus and not in Washington.

Very respectfully,

CHAS. F. MASON,
Major, Surgeon, U. S. Army.

* Requisition of Doctor La Garde, dated December 12, 1904.

EXHIBIT 15.

[Confidential. Memorandum for the Secretary of War.]

PANAMA, December 5, 1904.

HON. WILLIAM H. TAFT,
Secretary of War.

MY DEAR MR. SECRETARY: Referring to our recent conversations during your stay on the Isthmus, and in compliance with your request for my views in regard to, first, the control of the Panama Railroad Company; second, the traffic agreement between the Panama Railroad Company and the Pacific Mail Steamship Company; third, commission organization—I have the honor to forward herewith memoranda on these subjects numbered 1, 2, and 3, respectively.

Very respectfully,

J. F. WALLACE, *Chief Engineer.*

No. 1.

PANAMA RAILROAD.

While it is necessary that the chief engineer should have full and complete control of the operation of the Panama Railroad, to the end that the greatest possible use may be obtained therefrom, and the facilities connected therewith in the construction work of the canal, the interest of the minority stockholders of course can not in equity be overlooked, and it is suggested, first, that this stock be purchased in the open market if it can be obtained at a fair price, second, that if it can not, legal advice be secured as to the possibility of the condemnation of this property.

Should the stock be retained by its present owners the Commission will of course be subjected to criticism and possibly legal proceedings upon the part of any dissatisfied minority stockholder at any time.

The equity of the present situation in regard to the minority stock holdings in the Panama Railroad Company seems to be that these stockholders are entitled to the full value of their holdings as indicated by the earnings of the Panama Railroad Company during a term of years prior to the transfer of this property to the United States Government, and that if their present holdings are retained they are entitled in equity to such earning capacity as they would have received if the Government had not undertaken the construction of the Panama Canal. In case of doubt as to equity, liberality should govern.

On the other hand, it does not seem equitable that the minority stockholders should be entitled to exorbitant dividends on their stock, due to rates which the railroad company might charge the United States for the transportation of men and material required in the construction of the Panama Canal.

Pending the elimination of minority holdings of stock it would seem necessary to maintain a separate corporate existence for the Panama Railroad Company, but unnecessary to maintain the large organization that has heretofore controlled its management. There is no reason why the proper handling of the road for traffic purposes could not be maintained and a much larger and freer use of the property secured for the purposes connected with the construction of the canal, without the one unduly or improperly interfering with the other.

No. 2.

TRAFFIC AGREEMENT BETWEEN THE PANAMA RAILROAD COMPANY AND THE PACIFIC MAIL STEAMSHIP COMPANY.

It is suggested that the traffic contract between the Panama Railroad and the Pacific Mail Steamship Company be given a thorough investigation, which should be made by the chairman of the Commission, assisted by Judge Magoon, or some person of similar legal attainments, and by some American railway traffic official, if it is possible to secure the services of such a person; that in the investigation of this subject a hearing be held at which the officials of the Panama Railroad Company and the Pacific Mail Steamship Company be asked to appear and to present in writing their reasons for the continuance of such traffic

arrangements, and that at this hearing any persons who may be interested, or who may desire to suggest the abrogation of the contract, be invited to appear and submit in writing their views and opinions. If desired, this hearing should also be supplemented by verbal statements, of which stenographic reports should be taken, and at its conclusion the chairman of the Commission and the gentlemen associated with him in the conduct of the hearing should submit a complete record thereof, together with their views and recommendations, to the Secretary of War.

It is also suggested that it might be advisable and of assistance to the Secretary of War to have the record and report of this hearing submitted to the chairman of the Interstate Commerce Commission for his views after a careful examination thereof. Whatever decision might be reached by the Secretary after a thorough treatment of the matter in this manner would undoubtedly be fair, just, and equitable to all the interests concerned.

It does not seem advisable that the United States Government should continue in the steamship business, provided economical and satisfactory transportation arrangements can be furnished by private sources and a continuance of economical service secured.

No. 3.

COMMISSION ORGANIZATION.

If a personal recommendation as to the constitution and assignment to duties of the Isthmian Canal Commission is at all permissible, the following suggestions are made:

It would seem evident that satisfactory results can not be obtained in a speedy and economical construction of the Panama Canal through a commission of seven men exercising executive function. While in a multitude of counsel there is undoubtedly wisdom, proper executive action can not be secured through such a medium; and while it may be impracticable to change the form of the present Commission as established under the Spooner Act, it could be kept intact and its functions so modified as to secure the benefit of the advice and counsel of its members without such weakening of the executive function as now exists, the administrative and executive control of the work on the Isthmus being placed in the hands of the chief engineer, as per his suggestion and understanding with the Commission at the time of his engagement.

The chief engineer should be given as free a hand as possible consistent with a proper control of the work in accordance with existing laws and with sound business principles. This is particularly necessary when the fact is considered that this work is to be conducted in a tropical climate 2,000 miles away from the seat of government and is an undertaking requiring prompt executive action by the chief engineer situated on the grounds.

In this connection it is suggested that the functions of the four members of the Commission who are civil engineers be confined to the technical study and consideration of such general plans as may be submitted by the chief engineer, or such additional plans as may be called for by the Commission; that they act in a consulting and advisory capacity, and that these gentlemen be not burdened with matters of detail in elaboration of these plans or in their execution, which should be left with the chief engineer and his staff. While they should make such visits to the Isthmus as will enable them to keep in touch with the progress of the work and give them a prior knowledge of the general situation, it should not be necessary that any of them should permanently or regularly reside on the Isthmus.

It is evident that the general business of the Commission connected with the governmental departments and the general public, as well as the supervision of the securing of material, must be conducted at the seat of government. As the work progresses, the securing of the necessary material upon requisitions of the chief engineer, the letting of contracts, and other proper business matters of a general nature would prove to be a very important factor in the successful conduct of the work.

It is suggested that, with the chairman having general charge of the executive functions of the Commission, the routine work be divided as follows:

(1) One member of the Commission acting as a committee on purchases of materials and supplies, to be assisted by a first-class competent business man as purchasing agent, supported by a clerical staff competent and sufficient to properly look after all matters connected with purchases and the letting of contracts for materials and supplies.

(2) One member of the Commission acting as a committee to have charge of the shipment, general custody, and care of material and supplies after purchase, collaborating with the chief engineer in the supervision and inspection thereof, assisted by the chief of material and supplies department on the Isthmus. This latter department, however, should be under the chief engineer and subject to his direction and control so far as the care, distribution, and use of material on the Isthmus is concerned.

(3) One member of the Commission, acting as a committee, to have supervision over appointments and the securing of such labor as it may be necessary to engage in the States, collaborating with the chief engineer in this respect. He should not, however, have arbitrary control over appointments, but rather should assist the chief engineer in his selections.

(4) Three members of the Commission, who are civil engineers, acting as a committee, to pass on the general features of all plans, giving its time to the consideration of the larger engineering problems, but whose functions should cease after reporting to the Commission in favor of or against, or recommending modifications of, the various plans recommended by the chief engineer.

This committee should also be charged with investigations of such questions as the chief engineer may submit to it for advice and counsel. It should not, however, be burdened with the consideration of detailed plans or with the execution of same after their final adoption by the Commission. The plans adopted by the Commission should only be general, as the chief engineer should have authority to make necessary changes as to details, so as not to be unduly hampered should contingencies arise in the conduct of the work the submission of which to the Commission would delay its progress.

[Copy of memorandum by Wm. Barclay Parsons.]

THE NEW WILLARD, *Washington, D. C.*

The law provides a commission of seven members, of whom one shall be an army officer, one a navy officer, two engineers from civil life, and three to be chosen without restriction. It is essential for success that the executive functions should be restricted to as few men as possible, and that no one should have executive functions except as coupled with specific duties of high order. There are three such positions, viz, chairman, governor, and chief engineer. Can not advantage be taken of the requirements of the act which divides the Commission into two parts, professional and nonprofessional, and differentiate between their duties, functions, powers, and compensation?

Assuming that it is your intention, as you have stated, to make changes in the office of chairman and governor, the realization is simple. Appoint a good business or corporation man as chairman and a lawyer as governor, and the chief engineer a member of the Commission, those three, and those three only, being charged with full functions, including the power of legislation. Give these men a suitable salary of fixed amount without per diem extras. The other four Commissioners, consisting of the two military officers and two engineers, to form an engineering board. These Commissioners, with the chief engineer, to decide upon the type of canal, upon its dimensions, and from time to time upon the various plans for major details, and to act as an advisory board to the chief engineer to pass upon such questions as he may refer to it. These latter Commissioners would not be expected to reside in Washington or on the Isthmus, nor would they be expected to give their whole time to the work, but only as needed. Their compensation might be made \$5,000 or \$6,000, with a per diem allowance and all traveling expenses when absent from the United States.

This is substantially your own scheme, except utilizing the present law. The differentiation in powers could be openly stated in a letter of appointment by the President. It makes a small working body with definite duties for each Commissioner. A resident Commissioner, either on the Isthmus or in Washington, without specific and engrossing functions, is to be avoided at all costs.

ANCON, ISTHMIAN CANAL ZONE.

January 6, 1905.

(Personal.)

MY DEAR GOVERNOR: The newspapers have stated that in the special report which you have recently submitted to the President a recommendation is contained for a reduction of the number of members of the Isthmian Canal Commission. I hope the report is true, for I am satisfied that the present body is far and away too cumbersome and ineffective.

Of course I have no knowledge concerning the intentions of the President and of yourself respecting the personnel of a reorganized Commission, should Congress direct that there be one, and I shall do nothing whatever in respect to the matter. If I should be chosen as a member of it, I would be glad; if I should not be chosen, I would not be broken hearted.

It has been suggested as a possibility, or even a probability, that in the new legislation that Congress may enact the governor of the Zone would be divorced from the Commission, and that the person holding the office of governor would have no connection with the Canal Commission. I hope that the legislation will not take this shape. Instead, the governor—a member of the Commission—should also be the American minister to the Republic. A secretary of legation and a clerk, with allowance for an office and stationery from the State Department, is all that would be required.

Yesterday, in conversation with Mr. Barrett, he told me that while you were here he had stated to you his conviction that the office of American minister and the functions of the governor of the Zone ought to be exercised by one and the same person; that this would be the inevitable logical result he was informed by Mr. Buchanan, whom he saw in London while en route from Argentina to the United States, and that ever since then the conviction had been growing that this course ought to be pursued.

Mr. Barrett also said that he had heard from Mr. Francis Loomis, of the State Department, to the effect that the legislative, executive, and judicial bill as passed by the House contained the usual appropriation for the Panama legation, including a minister, and that Mr. Loomis also stated that he thought it was hardly likely that at this session of Congress anything would be done respecting the change, believing that in the short session Congress would not have time to act.

Two days ago I received a copy of the minutes of the proceedings of the Isthmian Canal Commission, covering the period from September 7, 1904—when the Commission left here—up to December 15, 1904. The records sent to me were those for the thirteen meetings that had taken place in that interval, not a word of which had been previously forwarded to me, and were not received until after I had protested against the neglect.

I observe by the proceedings that the Commission has adopted something slightly resembling the recommendation which I made and on which I asked for a vote on August 31, that looked to the appointment of an executive committee to be permanently resident here, with power to act.

The new plan contemplates a visit to the Isthmus from time to time of the standing committees of the Commission, one at a time. There are five of these committees, each consisting of two members, and when such standing committee of two visits the Isthmus the governor of the Canal Zone is to be ex officio a member of the committee then present; but I can not find from the records of the action taken that any authority to act, or that any power of direction, is to be vested in such local visiting committee. Whenever the two members visit the Isthmus it will be for observation only, to report back to Washington. Questions are arising here constantly with the chief engineer, the chief of materials, the disbursing officer, and with the governor, all of which must be submitted for the action of the Commission in Washington, and all of them ought to be disposed of on the spot.

The governor and the two visiting members will not make a quorum, and so nothing can be disposed of, for all these questions will have to go up as before.

Only when more than three members visit the Isthmus can there be a quorum present, and as the recent resolutions that have been adopted make no provision for the visit of the larger number, it necessarily results that one member of the Commission, who is permanently a resident of the Isthmus, will never be able to meet with his colleagues and sit as a member of the Commission.

This resident member of the Commission is also a member of the board of directors of the Panama Railroad, but as this board always holds its meetings in New York the Panama member will never be able to take any part in the

business of the board of which he is a member, unless the board meets on the Isthmus, as I contend it ought to do, save as respects the stockholders' annual meeting.

If the present Commission should be abolished, and the whole direction, control, and supervision should be turned over to the Secretary of War, I would say that the best organization would be a commission of three, their headquarters here, and the general counsel here also.

I am more and more convinced every day that the home for the Isthmian Canal Commission should be on the Isthmus, as is the home of the Philippine Commission in the Philippines. A commission of three or five—the chief engineer one of the number—would be a much better working board than a larger number; and a quorum never absent.

There should be a purchasing agent and a disbursing officer of the Commission somewhere at home, but I see no reason for any other office of the Commission in the United States, and if the whole work—everything devolved upon the Commission—were turned over to the War Department, the purchases and forwarding of supplies and persons would go on without a hitch.

One of the members should be an officer of the Corps of Army Engineers. I regard Mr. Wallace as a very superior man, and he ought to be retained.

This is not written with any thought of obtruding my views, but in the past you have honored me from time to time with your confidence, and with a request for my individual opinion. I therefore respectfully submit this.

Very sincerely,

GEO. W. DAVIS.

HON. WM. H. TAFT,

Secretary of War, Washington, D. C.

EXHIBIT 16.—Report of subcommittee of Committee on Interstate and Foreign Commerce on investigation of affairs of Panama Railroad Company.

A resolution approved January 12, 1905, authorized the Committee on Interstate and Foreign Commerce, or any subcommittee thereof, to investigate the affairs of the Panama Railroad Company. On January 13, 1905, a subcommittee was appointed, consisting of the following: Mr. Shackleford, Mr. Lovering, Mr. Esch, Mr. Townsend, and Mr. Adamson.

Said committee herewith submits a report of the evidence taken by it:

Owing to the shortness of the session and the great press of business before the Committee on Interstate and Foreign Commerce, the subcommittee has not been able to take all the testimony which it otherwise would have taken. It was especially desired to investigate the relationship, if any, existing between the Pacific Mail Steamship Company and the transcontinental railroads.

The testimony shows that the management by the officers and directors of the Panama Railroad has been conspicuously able, progressive, and businesslike.

When the United States became the owner of a majority of the stock of the railroad company seven of the directors resigned and the seven canal Commissioners were elected in their places. This was done in pursuance of a letter from the President to Secretary Taft. Said letter, among other things, contained the following:

"No salary or per diem allowance of compensation, in addition to the stated salary and per diem allowance of the members of the Isthmian Canal Commission, will be allowed to any member of the Commission by reason of his services in connection with the civil government of the Canal Zone, or his membership of any board or commission concerned in or connected with the construction of the canal, or by reason of his services as an officer or director of the Panama Railroad."

Notwithstanding this positive direction of the President several members of the Commission accepted and retained fees for attendance upon the meetings of the board of directors and the executive board, as follows:

Commissioner Walker, for attendance as a director.....	\$250
Commissioner Burr, for attendance as a director.....	250
Commissioner Grunsky, for attendance as a director.....	250
Commissioner Parsons, for attendance as a director.....	175
Commissioner Parsons, for attendance as member of the executive board...	220
Commissioner Harrod, for attendance as a director.....	125

The committee is of the opinion that under the direction of the President, as contained in the language quoted above, the Commissioners exceeded their authority in accepting said sums.

In the course of the hearings it developed that during the first six months after the Government took charge of the canal property the Canal Commission directed the officers of the railroad company to purchase supplies for the Commission. Requisitions for such supplies were made by Chairman Walker and other members of the Commission. No public advertisement for such supplies was made nor any competitive bidding sought. No general opportunity for bids was given. These purchases amounted to about \$233,000. These purchases were said to have been made on emergency orders, but the evidence discloses that a very large portion of such supplies were not actually needed at the time of the purchase and have not yet been used. In fact, supplies were received in such quantities and so much more rapidly than needed that the terminal facilities of the railroad were inadequate to care for them, and some of them had to be rehandled and reshipped at extra expense to the Government. It is the opinion of the committee that the best interests of the Government would be subserved by advertisement for competitive bidding by responsible persons.

An examination of the evidence will disclose that the Panama Railroad, with its connecting line of ships, is a very valuable property. It has shown its capacity to earn substantial dividends for many years. Undoubtedly the traffic over the line could be greatly increased by improving the ship service connected with it. There ought to be prompt and direct connecting lines of steamers running on regular schedules between Colon and New York, between Colon and some Gulf port, and between Panama and San Francisco. By such arrangement the time between San Francisco and Gulf ports could be reduced to fifteen days, and between San Francisco and New York to seventeen days. It must be apparent to everybody that such a reduction in through time would greatly increase the amount of the traffic.

The successful construction of the Panama Canal demands that the United States shall own and operate the Panama Railroad. In doing this, however, neither its earning capacity nor its efficiency as an artery of commerce should be impaired.

Under careful management the railroad is worth many millions of dollars. To discontinue its use as a public highway would be the wanton destruction of this vast asset.

For more than fifty years the Panama Railroad has been used as an international highway. The nations have acquired an interest in its use, and it would be impolitic and unjust for the United States to now close it to the commerce of the world.

It should also be kept in mind that the Panama Railroad and connected ship lines have had a marked effect in reducing the rates of the transcontinental railroads. Further reductions could be secured by reducing the charges by the isthmian route, which could be done materially and still keep within the limit of fair and remunerative rates. If the Panama Railroad were to be discontinued as a public highway it would undoubtedly result in the raising of the rates on the transcontinental lines.

Then it must not be forgotten that the United States will have to transport great numbers of men and large quantities of material during the construction of the canal. If the ships belonging to the railroad are disposed of, then the Government will be at the mercy of the ship trust.

The committee, therefore, is of the opinion that the Government should operate the Panama Railroad as a public highway, and in connection therewith should operate lines of ships between Colon and New York, between Colon and some Gulf port, and between Panama and San Francisco. A fair and remunerative rate should be charged. Such a plan would not only return to the Government a fair revenue, but in addition would regulate many rates of transportation in the interest of the people.

In carrying out the policy herein outlined some of the Government transports could be used to supplement the steamers now owned by the Panama Railroad Company.

The Panama Canal when completed is to be owned and operated by the Government. During its construction the Government may with equal propriety operate the railroad and connected ship lines.

The committee believes that for the present it is best to continue the general offices of the railroad at New York, and that this can be done at a great reduction

of the present expense. It is the point of origin of a large amount of the freight carried over the Isthmus. It is well connected by telegraph with every part of the country.

The committee is of the opinion that the United States should secure ownership of the entire stock of the Panama Railroad Company.

All of which is respectfully submitted.

DORSEY W. SHACKLEFORD.
WM. C. LOVERING.
JOHN J. ESCH.
CHAS. E. TOWNSEND.
W. C. ADAMSON.

EXHIBIT 17.

APRIL 9, 1906.

MY DEAR MR. WALKER: I am directed by the Secretary of War to inclose you herewith copies of papers complaining of the rates on the Panama Railroad Company, and to ask that you send the Secretary a report at once. He is very anxious to obtain it at the earliest possible date.

Very respectfully, yours,

FRED W. CARPENTER, *Private Secretary.*

MR. R. L. WALKER,

Traffic Manager, Panama Railroad Company.

24 State street, New York, N. Y.

PANAMA RAILROAD COMPANY,
New York, April 10, 1906.

MY DEAR MR. CARPENTER: Complying with your request of the 9th instant, I beg to report on the letter from Mr. D. O. Lively, March 19, to Hon. W. F. Sands, chargé d'affaires, American legation, Panama, as follows:

Our passenger tariff from New York to Colon compares favorably with the passenger tariffs of other lines between New York and the West Indies. Our rates are \$75 for staterooms in cabins on the main deck and \$90 for staterooms in cabins on the upper deck on the steamers *Advance*, *Finance*, and *Alliance*. The steamers *Colon* and *Panama* have no staterooms on the lower deck, hence the first-class fare on those boats is \$90, and this particularly is warranted by the express service. The Royal Mail Steam Packet Company charge \$75 from New York to Puerto Colombia and \$80 from New York to La Guaira. They told us when making their rate \$70 to Colon that the figure was necessary to secure any travel in competition with our direct service.

Mr. Lively mentions the stop-over at Jamaica as a privilege. This, you will note, is contrary to the general view. As to the boats being better, faster, and giving a better service in every particular, I think that is a matter of opinion. Their steamers sail but once a fortnight. Our steamers *Colon* and *Panama* sail on an average of every twelve and one-half days, and they are making the trip in less than six days. We are receiving a fair share of patronage for the express service, and I think it will grow as it becomes more known. In this connection the inclosed copy of my letter to Mr. Pepperman, March 8, gives more extended particulars.

We get very few passengers between New York and San Francisco, even at the low fare of \$105. We could not afford to handle the whole passenger business on any such basis, and the few that we do take really represent clear profit, as they do not add to the expense of the voyage between New York and Colon.

The local passenger fares on the Isthmus are maintained on the basis that a passenger without baggage should not pay so much as a passenger with baggage, and in February, 1905, the local first-class rate between Colon and Panama was reduced from \$4 gold to \$2.40 gold and the rate for baggage was reduced from 3 to 2 cents per pound. Passengers are allowed to carry a reasonable amount of hand baggage without charge.

The six new passenger coaches of large capacity which have just been completed and are about to be forwarded to the Isthmus should soon relieve the crowding of the first-class cars, to which Mr. Lively makes reference.

In the matter of freight rates, the local tariff for Isthmus transit must necessarily appear disproportionate to the mileage by the steamships. The entire cost of operation on the Isthmus, including the franchise tax of \$5,000 per mile per annum, is very much higher than the cost in the United States, and material reductions have been made in the rates since the United States became owners of the road.

In the item of rice the rate from 1892 to 1905 was \$12 per ton for any distance. Now the rates vary from \$3.40 for 10 miles to \$4.60 across the road; but rice is not likely to move across the road, as Colon should supply half the route and Panama the other half, Panama getting its supply via the Pacific and Colon receiving its supply from New York or from Europe.

Our tariff makes brick, loose, in less than carload lots, second class, and our second-class rate varies from \$5 to \$8.80 per ton, according to the distance; but if the bricks are put in packages, saving the labor of handling, we charge from \$2.60 to \$4 per ton. Shipper can save the cost of packages by loading and unloading the cars.

Cement is necessarily in barrels, and pays the same rates as brick in packages, from \$2.60 to \$4, varying with the distance.

The rates on lumber and timber are in proportion to the other rates of the tariff, and have been materially reduced from 50 cents per 100 pounds for the haul of any number of miles on the road to 13 cents per 100 pounds in carload lots for 10 miles to 20 cents per 100 pounds for 50 miles, shippers to load and unload, while small shipments of inch boards, requiring much handling, are charged from 21 to 34 cents.

Cedar, mahogany, and cocobolo of local production pay from 10½ cents per 100 pounds to 17 cents per 100 pounds, varying with the distance—that is, one-half of the tariff rates—in accordance with our contract with Panama.

Stoves are third class, whether crated, boxed, or not, and this is somewhat lower than the trunk lines class them hereabouts, as they must be crated or boxed to get the third-class rate.

Furniture is first or second class, according to its value, and this rate is not high, comparatively, when the room it takes up in cars is considered.

The local commercial traffic on the railroad in 1904 was governed by the tariff of 1892 and various reductions which had been made from time to time to meet the needs of particular traffic. This tariff yielded an average revenue of \$4.41 per ton. The present tariff, which went into effect July last, has yielded an average revenue of \$3.89 a ton, being a reduction of 52 cents per ton. The cost of handling the traffic during the same period has been \$3.06 per ton. A further general reduction is therefore not advisable until the modern equipment now being supplied to the road demonstrates how much cheaper we can handle the traffic.

The question of billing freight through from the United States or from Europe to local points on the line of the road has received attention from time to time on our own initiative, but the custom-house difficulties and the limited facilities at the Isthmus for holding freight on the wharves while custom-house entries are passed proved obstacles in the way of a general arrangement of the kind.

However, there has been no pressing demand for such an arrangement. In fact, I recall but one request regarding the matter, and we arranged to hold that consignee's freight on the wharf at Colon and ship it out direct from the wharf, provided he made his custom-house entry immediately upon arrival of the steamer carrying his goods. The consignee could not get more favorable arrangements than this in the United States. Of course the same facility would be granted to anyone else making application for such accommodation.

Yours, truly,

R. L. WALKER,
Traffic Manager.

Mr. FRED W. CARPENTER,
Private Secretary to Secretary of War,
Washington, D. C.

INVESTIGATION OF PANAMA CANAL MATTERS.

2631

MARCH 8, 1906.

Mr. W. LEON PEPPERMAN,

Assistant Chief of Office Isthmian Canal Affairs,

Washington, D. C.

DEAR SIR: Mr. Drake has asked me to follow up his letter to you March 2 with particulars regarding the Royal Mail competition in the passenger traffic. The comparison is as follows:

Cabin passengers to Colon and west coasts of Central and South America.

	Panama R. R. Steamship Line.		Royal Mail Steam Packet Co.	
	Trips.	Passengers.	Trips.	Passengers.
Oct. 28 to Dec. 9.....	7	88	4	127
Dec. 16 to Feb. 26.....	14	160	5	44

Cabin passengers from Colon and west coast of South America.

	Panama R. R. Steamship Line.		Royal Mail Steam Packet Co.	
	Trips.	Passengers.	Trips.	Passengers.
Oct. 26 to Dec. 8.....	7	43	4	62
Dec. 12 to Feb. 27.....	15	109	5	84

Our steamers from New York, between October 28 and December 9, were absolutely unable to meet applications of the public for passage. We had to redeem the return portion of many excursion tickets, so that the passengers could go to the Royal Mail, undoubtedly paying more money than the amount refunded by us. The result of this condition is shown in the 127 passengers carried by the Royal Mail against 83 carried by us.

Since December 9 we have been able to take care of the general public, and you will note that we have carried on the average more than 11 passengers per trip, while the Royal Mail have carried but 9 passengers per trip.

From October 26 to December 8 you will note that the Royal Mail in four trips carried 62 passengers, while on seven trips we carried but 43 passengers. I attribute this particularly to the fact that at that time we had no published schedule, and travelers could seldom learn far in advance the dates on which our steamers would leave Colon, whereas the Royal Mail were advertising fixed dates. The fact that the line had just started also probably directed some extra business to them.

Since December 12 both the Royal Mail and our company have averaged 7 cabin passengers per trip. I think it is fair to draw the conclusion that we would not have had more passengers had our rates been lower. The Royal Mail being in the business, with a less frequent service, would undoubtedly have to maintain rates lower than ours in order to secure a share of the patronage.

The rates of the Red "D" Line between New York and La Gualra vary from \$70 to \$80. The rate of the Atlas Line to Savanilla and Cartagena is \$75, and to Port Limon \$80. The rates by the Royal Mail Steam Packet Company are to Porto Colombia \$75; La Gualra, \$80; Trinidad, \$85, and Barbados, \$90. I look upon the rates charged for our service as fair and reasonable in comparison.

Yours, truly,

R. L. WALKER, *Traffic Manager.*

PANAMA RAILROAD COMPANY,
Washington, April 11, 1906.

DEAR SIR: Supplementing the copy of the letter of January 18, 1906, addressed to Mr. Pepperman, I beg to confirm the statements that I made to you this morning.

Since the Panama Railroad Company became the property of the United States we have reduced the freight rates from New York to Panama on most goods 33½ per cent or more. The through rates are divided 45 per cent to the railroad and 55 per cent to the steamship line.

We have admitted as connections at Colon two steamship lines from New York—the Royal Mail Steam Packet Company and the Atlas Line. A line from New Orleans to Colon also connects with us. From all of these steamship lines

the railroad accepts the same pro rata freights (45 per cent), so that there is no discrimination.

When we reduced the rates from New York to Panama the steamship lines from Europe to Colon also reduced their through rates to Panama, following the pace which our steamship line enabled us to set for the benefit of the people of the Isthmus.

The local passenger fares on the Isthmus have also been reduced to 5 cents per mile for first-class passengers and 3 cents per mile for second-class passengers, the former rates having been 8½ to 10 cents per mile first class and 4½ to 5 cents second class.

The material reductions in the local freight rates for staple articles shown in the letter to Mr. Pepperman have left the average earnings on local freight \$3.89 per ton. The average cost per ton for the transportation is \$3.06, thus leaving but a small margin of profit.

Very respectfully,

The SECRETARY OF WAR.

R. L. WALKER,
Traffic Manager.

PANAMA RAILROAD COMPANY.

Washington, April 11, 1906.

DEAR SIR: Referring to our conversation this morning, I beg to advise that our freight rates from New York to Central America and Mexico on cargo billed by weight were reduced about 10 per cent last December, in order to make our rates as low as those from Europe via the Isthmus to the same territory.

No material change was made in the rates for cargo billed by measurement from New York, because they were already as low as the measurement rates from Europe to Central America and Mexico.

Roughly speaking, the cargo billed by weight to those destinations may be 25 per cent of the whole. I have pointed out to Mr. Schwerin that his proportion of the reduction can not be anything like the \$30,000 which he mentioned when giving testimony to the Senate Committee on Inter-oceanic Canals January 31. (Page 510 of the printed hearings.)

Very respectfully,

The SECRETARY OF WAR.

R. L. WALKER,
Traffic Manager.

PANAMA RAILROAD COMPANY,

New York, April 11, 1906.

SIR: Regarding the flat rate of \$2 per ton recommended by Mr. Wallace, such an arrangement would be unfair to all interests.

First. The average cost for hauling freight on the Isthmus is \$3.06 per ton, to which must be added for through steamship freight 70 cents per ton terminal expenses—a total cost of \$3.76 per ton.

Second. No steamship line operating to the Isthmus would be willing to pay the railroad a flat rate on all cargo to cover our cost. They are obliged to make through rates low for cheap goods of a dense character and average up by higher rates for more valuable goods requiring more room for stowage and care in handling. Steamships would not accept the low-class freight and pay us a high arbitrary rate, and low-class freight would thus be denied the benefit of isthmian transit. Our present practice of sharing pro rata with the steamship lines, thus receiving a higher revenue on some classes of goods than on others, is the system desired by the steamship lines connecting with our railroad. There is no demand for a flat rate.

Third. I understand that Mr. Wallace has a theory that a flat rate would approximate conditions that will become effective when commerce moves through the canal. As a matter of fact, conditions will differ totally. The tolls to be charged a vessel passing through the canal will naturally be fixed on the principle that prevails at Suez, a fixed rate per ton on the carrying capacity of the vessel. Each vessel will thus pay a lump sum for passing through the canal, whether she be fully or only partially loaded, whether she be filled with few tons of light cargo or many tons of heavy cargo; and the lump sum paid by the vessel distributed over the cargo laden on board will make a different average rate per ton on a mixed cargo every time the vessel goes through the canal.

Very respectfully,

The SECRETARY OF WAR.

R. L. WALKER,
Traffic Manager.

New York, January 18, 1906.

Mr. W. LEON PEPPERMAN,

*Assistant Chief of Office, Isthmian Canal Affairs,
Washington, D. C.*

DEAR SIR: Referring to our conversation by telephone this afternoon, I beg to advise that our class rates are as follows per ton weight or measurement, at our option, New York to Colon:

D.	1	2	3	4
\$20.00	\$10.00	\$8.00	\$6.00	\$5.00

These rates went into effect September 15, 1903, and I inclose copy of the tariff (Exhibit A), which will show some special rates should you need to consult it. The bulk of the business moves under fourth-class rate, which is about the same as for coarse goods from Europe to Colon, and sailing vessels from here want nearly as much.

New York to Panama, July 20, 1905, the rates were made, at our option:

D class, \$1.12 per cubic foot, or \$2.24 per 100 pounds.

First class, 56 cents per cubic foot, or \$1.12 per 100 pounds.

Second class, 32 cents per cubic foot, or 64 cents per 100 pounds.

Third class, 28 cents per cubic foot, or 56 cents per 100 pounds.

Fourth class, 22 cents per cubic foot, or 44 cents per 100 pounds.

I also inclose tariff showing the above and exceptions (Exhibit B).

Prior to July 20 last the rates from New York to Panama were, at our option:

D class, \$1.20 per cubic foot, or \$2.40 per 100 pounds.

First class, 70 cents per cubic foot, or \$1.40 per 100 pounds.

Second class, 60 cents per cubic foot, or \$1.20 per 100 pounds.

Third class, 54 cents per cubic foot, or \$1.08 per 100 pounds.

Fourth class, 36 cents per cubic foot, or 72 cents per 100 pounds.

Special class (on 10-ton lots of fourth-class freight), 33 cents per cubic foot, or 66 cents per 100 pounds.

You will note that the rates on third-class goods have been cut nearly in half, while on fourth-class goods, which formerly paid different rates according to whether the lots were 10 tons or less, the present rate for any quantity is from 33½ per cent to 39 per cent less. Europe followed our lead in reducing rates correspondingly to Panama.

The entire classification for the Isthmus transit has been changed, so that comparisons can only be made article by article. The reductions may be seen by comparing the following staples:

	Class.	Tariff July 15, 1906, per 100 pounds.		Tariff of 1892, per 100 pounds, all distances.
		10 miles.	50 miles.	
Beer	3	\$0.21	\$0.34	\$0.40
Biscuits	2	.25	.44	.60
Beef (salted)	4	.17	.23	.60
Butter	2	.25	.44	.60
Beans	4	.17	.23	.50
Codfish	3	.21	.34	.60
Canned goods	2	.25	.44	.80
Cement	5	.13	.20	.20
Cigarettes	1	.30	.50	1.20
Eggs	1	.30	.50	1.40
Flour	4	.17	.23	.60
Groceries	2	.25	.44	1.20
Ice	4	.17	.23	.50
Lard	4	.17	.23	.60
Lumber (carload)	5	.13	.20	.25
Meat (fresh)	1	.30	.50	.70
Molasses (in wood)	4	.17	.23	.70
Milk (condensed)	2	.25	.44	1.20
Nails	4	.17	.23	.50
Oil (machine)	3	.21	.34	.75
Petroleum, refined (carloads)	4	.17	.23	.80
Potatoes	4	.17	.23	.60
Provisions	4	.17	.23	.60
Rum (in glass)	1	.30	.50	.50
Rum (in wood)	4	.17	.23	.50
Soap (common)	4	.17	.23	.40
Sugar	4	.17	.23	.70
Tobacco (manufactured)	D1	.60	1.00	1.20
Vegetables	2	.25	.44	.60

Considering that when any of the articles shipped are the produce of the Isthmus, we must carry them at one-half of the tariff rates in accordance with the contract between Colombia and her assigns, and considering that we are called upon to pay a franchise tax of \$5,000 per mile per annum to the assigns or successors of Colombia, which was equivalent to about 67 cents a ton on the commercial freight carried on the road last year, it was not thought that we could make the rates, even on the low-class goods, any less than shown above—rates which, for distances not in excess of 10 miles, show a very material reduction. I have omitted the rates for intermediate distances of 20, 30, and 40 miles, so as not to burden the illustration.

Yours, truly,

R. L. WALKER,
Traffic Manager.

EXHIBIT 18.

PANAMA, April 4, 1905.

Mr. JOHN F. WALLACE.

Chief Engineer, Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I submit herewith the following report of operations for the week ending April 1:

[Mr. Charles List, resident engineer, Cristobal.]

Two parties have been doing topographical work from Mindi to Gatuncillo, with very good results, this work being almost completed.

One party has been assisting the engineers of the U. S. Geodetic Survey steamer *Bache* on their base line, and arranging signals for triangulating the country between Cristobal and Bohio.

The boring party has been occupied with the topographical party, and no boring has been done.

At wharf No. 14 a few piles have been driven, and what decking remained on hand has been placed. The wharf house adjoining 14 has been partly taken down to make room for two tracks parallel to the wharf. The surroundings of that wharf have been cleaned up as a precaution against fire.

Nothing has been done to wharf No. 11. A portion of the men engaged upon this work have been sent to Culebra for the purpose of extending the culverts for double tracking between Cucuracha and Pedro Miguel.

Considerable has been done in the way of track repairs, and a provisional track has been laid into the old locomotive shed near wharf No. 3, in order to get at the locomotives stored there.

[A. B. Nichols, assistant engineer, Gatun.]

Surveys have been made near K. 10 and in the region northeast of Lion Hill station.

The survey of the Panama Railroad between bridges 12 and 29 has been completed.

Center lines have been run for borings in the neighborhood of K. 10 and the west diversion.

Test borings have been completed with the exception of No. 75 and an additional hole to be put down at Gatun Island to locate the rock surface at that point. It is known that this rock surface is below —172, and by fixing it definitely the rock section across the valley can be shown approximately.

[Mr. H. F. Dose, resident engineer, Bohio, and Mr. Boyd Ehle, resident engineer, Bas Obispo.]

Mr. Ehle having been transferred to Culebra to act as division engineer during my absence, Mr. Dose has been placed in charge of the work at that point, which he will carry on in connection with the work that he has been doing.

He has continued the borings that were being carried on by his own party and also those that were being done under the direction of Mr. Ehle.

Borings have been started in the vicinity of Pedro Miguel, and the party at that point has commenced work toward Culebra, taking borings at first at every kilometer.

CULEBRA.

Mr. Boyd Ehle has been appointed acting division engineer to take charge of work at Culebra during my absence.

During the week 30,138.2 cubic yards have been taken out of the cut, making a daily average of 5,028 cubic yards.

A department of mining has been established and put in charge of Mr. Frederick Bennett as superintendent of mining.

Track work is being pushed as rapidly as the lack of proper track foremen will permit.

Surveys and technical work.—The survey of ground at Miraflores that is to be used for shops has been nearly completed.

The plat of the valley between Paraiso and Pedro Miguel, which was not surveyed the week previous, has been completed.

Markers indicating extreme canal slopes at points about Paraiso have been placed, and map has been prepared of the tracks between the Panama Railroad and Lirio, with a view of establishing new dumps on the west side of the canal near the village of Lirio.

A survey has been started to get the location of buildings in the village of Culebra that will fall within the proposed line of canal excavation.

Surveys for the new line for the Gamboa track have been renewed.

Cross sections for monthly estimate of quantities excavated have been taken.

The work of extension of culverts along the old Panama Railroad, between Paraiso and Pedro Miguel, has been carried on, and preparations are being made to continue this work for double tracking the Panama Railroad from Pedro Miguel to La Boca "Y."

A detail from the engineering force has been made to inspect the bridges of the Panama Railroad, and this work has been begun.

[C. E. Davis, engineer, waterworks and sewers.]

The waste pipe from the Rio Grande dam, which had been opened for the purpose of lowering the surface of the water in the reservoir, has been closed, and the water is now at elevation 227.

On the supply line from Rio Grande reservoir to Panama connection has been made between the 20-inch galvanized pipe and the 16-inch cast-iron pipe.

Specials have been laid for crossing under the tracks of the Panama Railroad at the upper end of the line.

At the Ancon section the 6-inch cast-iron pipe has been completed. In the streets of Panama about 600 feet of cast-iron pipe has been laid.

About 250 feet of 8-inch sewer pipe has been laid at Panama, and 8 man-holes completed.

At Culebra the collection reservoir and pump well have been completed, and a 6-inch main has been laid as far as the hotel.

About 400 feet of 6-inch cast-iron pipe has been laid for the water supply at Culebra cut.

At Gorgona work has been commenced upon the new reservoir made necessary by the authorization of the hotel building at that point.

Commencement has also been made on a 6-inch fire line for Bas Matachin shops.

At Colon a Decauville track for Mindi division has been extended about 1,500 feet toward the Brazos Brook reservoir, and the gang has been engaged in clearing and grubbing at the reservoir site.

[M. O. Johnson, supervising architect.]

At La Boca wharf 864 feet of piling has been driven and 2,160 feet of lumber put in place.

At Ancon Hospital a force of 282 men of all kinds have been employed during the week.

At Corozal a force of 50 carpenters have been working during the week, making fair progress.

At Culebra a force of 79 carpenters have been working on the bachelor quarters, and also a force of 26 painters. All of the upper story of this building is occupied and a portion of the second story, and in about a week the remainder of the building will be ready for use.

The usual force has been engaged in repairs to buildings at La Boca, Ancon, Corozal, Miraflores, Paraiso, Bas Matachin, Gorgona, and Cristobal.

[C. A. Strom, mechanical engineer.]

Bas Matachin shop.—Locomotive No. 31 was completely overhauled and repaired. Continued repairs to two locomotives.

Twenty-two French dump cars completely overhauled, 22 of which had the wheels spread to 5-foot gauge.

Completed the construction of one brake car for use of trains at Culebra.

Foundry.—The following castings have been made: Two pile-driver hammers for La Boca; 3 corbells, 9 struts, and 21 plates for Gorgona bachelor quarters; 21 covers and 12 manhole heads for Panama sewers, and various smaller castings.

Empire shops.—Completely overhauled 3 locomotives, Nos. 92, 158, and 200. Continued overhauling 8 locomotives, and commenced work upon 2 others, Nos. 72 and 182.

Special repairs to two locomotives received from Culebra have been completed. General repairs have been continued on two locomotives received from Culebra.

Fifteen French dump cars have been overhauled.

Fifty-five French dump cars near Culebra have been prepared for removal to shops.

The pile driver which was converted from an Osgood steam shovel has been completed.

One old French lathe 16 inches by 10 feet has been installed and put in operation in machine shop.

In the woodworking shop the placing of shafting and machinery has been continued.

Cristobal shops.—The overhauling of engine and boiler for tie-boring machine has been begun.

The work on screens for Ancon and Rio Grande reservoirs has continued.

The work of getting dump cars out of the jungle has been continued.

The overhauling of two locomotives has been commenced.

The shafting and woodworking tools for temporary wood shop have been overhauled and installed. Several forges have been completed and installed for temporary blacksmith shop.

EMPLOYEES.

The number of men at work on March 29, as shown by the daily force report of that date, was as follows:

Silver men	4,104
Gold men	675
Total	4,779

Very respectfully,

W. E. DAUCHY, *Acting Chief Engineer.*

PANAMA, April 12, 1905.

MR. JOHN F. WALLACE,

Chief Engineer, Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I submit herewith the following brief report of operations in the engineering and construction department for the week ending April 8, 1905:

[F. B. Maltby, division engineer, Cristobal.]

The work of making topographical surveys and the new location for the Panama Railroad between Monkey Hill and Gatun has been continued, and also a selection of sites for triangulation points and the erection of monuments for same.

Work on wharf 14 has been practically suspended. The work of repairing existing tracks in the vicinity of wharf 14 has been continued, and some work done on the yard tracks at Fox River.

The party under Mr. Nichols spent a part of the week developing the topography along the canal near K. 10 and is working on maps and tabulated statements to accompany his final report.

Mr. List, resident engineer at Cristobal, resigned April 8, and his resignation was accepted.

[H. F. Dose, resident engineer, Bohio.]

The boring party at San Pablo dam site has completed two additional holes. Two boring parties have been engaged along the center line of the canal above Las Cascadas and one party on the tunnel line toward the Gatuncillo watershed.

The surveying party at Bas Obispo have been closing up some work in the vicinity of Gamboa dam. This work will be completed in about ten days, at which time the topographical surveys pertaining to the control of the different streams entering the Chagres below Gamboa will be continued.

[Boyd Ehle, acting division engineer, Culebra.]

Construction.—The total number of yards taken out of Culebra during the week was 33,561, being an average of 5,593 cubic yards per day.

Surveys and technical work.—The surveys at Miraflores have been completed. A plat has been made of the village of Culebra, showing the property that will come within the slope of the canal.

Clearings for levels to be taken along the center line of the canal from Bas Obispo are being made, and various surveys for additional topography have been in progress.

The detail engaged upon inspection of the bridges of the Panama Railroad has about completed its work.

A large part of the force have been engaged in making estimates of quantities of amount of material taken out during the month of March.

[A. C. Harper, resident engineer, La Boca.]

A mareograph has been installed in the tidal station at the end of La Boca pier and is now in operation.

Five thousand nine hundred feet of line have been cleared on the center line and cross lines for topography, and stations have been set from 159 to 173.

[C. E. Davis, engineer, waterworks and sewers.]

Supply line from Rio Grande reservoir to Panama.—Piles for a temporary bridge across the canal cut near Pedro Miguel have been driven. Pipe is now being laid to fill in this gap.

A number of specials have been set, and the work of concreting about the galvanized pipe at the upper end of the line has been continued.

Distribution pipe line for the city of Panama.—A certain amount of 8-inch pipe ordered for other places on the Isthmus having arrived by steamer from New Orleans, it has been diverted to Panama. This has enabled the construction work to proceed upon Central avenue.

The amount of pipe laid during the week is as follows: Seven hundred and sixty-four feet of 6-inch pipe and 177 feet of 8-inch pipe in Panaman sewers. Sewers have been laid where pipe trench has been opened on Central avenue.

The amount of sewer pipe laid during the week was 493 feet of 8-inch pipe and 220 feet of 12-inch pipe.

Culebra waterworks.—The construction of the reservoir upon the hill has been begun. A small amount of 4-inch pipe has been laid.

Gorgona waterworks.—Work has been commenced upon the dam made necessary by increasing the water supply at this point.

Work has been continued upon the 6-inch fire line for the mechanical shops at Bas Matachin.

Colon waterworks.—A force of about 30 men has been engaged in doing preparatory work and in laying Decauville track to Monkey Hill from the Brazos Brook reservoir.

[M. O. Johnson, supervising architect.]

At La Boca wharf 1,268 feet of piling has been driven and 4,000 feet of lumber put in place.

At Ancon Hospital a force of 200 men has been employed during the week.

At Corozal fair progress has been made upon the bachelor quarters, where a force of 114 men has been employed. Repairs have also been in progress upon the colored quarters and upon the quarters for married men.

At Miraflores 3 houses have been undergoing repairs.

At Culebra 105 men have been engaged upon the bachelor quarters, which are now ready for occupancy, although some work remains to be done.

At Cristobal repairs have been continued on 15 houses, and the usual force has been at work upon the hospital.

[C. A. Strom, mechanical engineer.]

Bas Matachin shops.—The work of overhauling locomotives Nos. 26 and 58 has been continued.

Twenty-six French dump cars have been overhauled and put in shape for service.

A large number of castings have been made, consisting of manholes for waterworks and sewers, locomotive grate bars, oil boxes for dump cars, etc.

Empire shop.—Three locomotives have been completely overhauled and work upon four others continued.

Special repairs on two locomotives received from Culebra have been completed and general repairs commenced upon two others received from that place.

Eighteen French dump cars have been overhauled and made ready for service.

The work of placing additional machinery in the woodworking shop has been continued.

Foundations have been laid for the band saw and boring machine, and these machines have been installed.

Cristobal shops.—Work has been begun on steam pump for waterworks and sewers department.

Work has been continued on locomotives and overhauling engine for tie-boring machine and various smaller repairs.

EMPLOYEES.

The number of men at work on April 5 was as follows:

Silver men	4, 181
Gold men	721
Total	4, 902

Very respectfully,

W. E. DAUCHY,
Acting Chief Engineer.

COLON, April 13, 1905.

MR. JOHN F. WALLACE,

Chief Engineer Isthmian Canal, Evening Star Building.

Washington, D. C.

DEAR SIR: The character of the men who have recently been coming out from Washington are no improvement on those we have been getting heretofore—in fact, the conditions are a little more aggravating owing to the fact that they have been sending out some higher price men who are of no use to us whatever. I call your attention to the following instances:

One, Gradison, Culebra, supervisor of excavation, \$175 per month, former experience, Government work in Tennessee. Claims to have had experience around steam shovels, but the work he has done since coming here would indicate that he knows nothing about it. He is of no use to us.

Penny, sent here as supervisor of pumps, at \$175 per month. According to his statement he has had considerable experience on contract work, but he is evidently not the man we want here. He is not capable and hustling and getting work out of men.

Anthony, supervisor of tracks, at \$175 per month. Has had no experience on track work at all.

I also understand from Mr. Ehle that several of the yardmasters who have recently arrived and are getting \$140 and \$150 per month, are of little or no value, but we have not as yet had opportunity to fully determine their ability.

In going through Culebra this morning I found that the labor situation, owing to delayed pay day, is quite serious. The men are doing little or nothing, and are attempting to work when they have been without food and are physically unable to do manual labor. One or two individual cases that came under my notice were really pitiable. In this connection I inclose you a clipping from the Panama Star and Herald of this date.

Very truly, yours,

W. E. DAUCHY,
Acting Chief Engineer.

PANAMA, April 17, 1905.

MR. JOHN F. WALLACE,

*Chief Engineer Isthmian Canal Commission,
Washington, D. C.*

DEAR SIR: On Saturday, the 15th, I received your cable message in regard to turning over the contract laborers received from the Panama Railroad to Mr. Prescott. I am arranging to do this as soon as Mr. Prescott can arrange for quarters for the men.

This will relieve the difficulty of having to keep track of so many different rates of pay, but it will probably make us short of laborers for a time, as Mr. Prescott tells me he has very few men to release that are not contract men.

I have just returned from a trip to Culebra, and want to again call your attention to the kind of men that are being sent to us from Washington. Last week we received 8 foremen, at \$100 per month each, who are practically of no service to us. These men have been employed in various capacities, but none of them upon railroad work.

One was foreman for a contractor upon general city work in Philadelphia; another was a foreman having had charge of the erection of telegraph poles; another was a foreman in a stone quarry; and still another one had charge of a lot of mules in Government service.

These men are not only of no service to us at all, but are a detriment to the work in two ways:

In the first place, the cost of their salaries increases the cost of the output; and in the next place, they retard the work in this way: They are put in charge of a gang of men and a certain reliance must of necessity be placed upon them, and as no satisfactory results are obtained from their service we not only lose the services of the foreman himself, but of the men that he has in charge.

We have tried to use these men as dump foremen and are still doing so, but it is very necessary that we have men for such positions that know something about tracks, as they not only have to look after the dumping of cars, but the continual throwing of track, and sometimes quite a little track surfacing.

We have not as yet received a single track foreman from the States, notwithstanding the fact that four months have elapsed since we stated our pressing necessities in that line; nor have we as yet received any track tools, requisitions for same having been in since last November.

I wish to state that we have now practically reached our limit of any expansion of the work at Culebra until we get a large number of track foremen.

The rains have now started at Culebra. It is going to be necessary for us to use all the track foremen that we have there at the present time in keeping the tracks already laid in serviceable condition.

In fact, we have not enough men for this purpose, particularly as these tracks have not been put in proper condition during the dry weather, owing to this same lack of foremen and lack of track tools.

The only track tools that we have received to apply upon our requisitions have been some hand cars and rubble cars, which have just arrived at Culebra.

Since we first stated our needs for track foremen and track tools, 850 men have been added to our forces, and since that time we have had no increase whatever in track foremen nor track tools, except the few that we obtained from the Panama Railroad about a month ago.

Since our request went in in December for additional foremen, 6 additional steam shovels have been put to work, and our train service has been increased to about three times what it was. The amount of track to be maintained has increased in the same proportion.

It has been necessary to use every available track foreman to lay the additional tracks necessary to expand our output to what it is at present, and practically no work has been done upon the maintenance work.

The rains have now started at Culebra. It rained very hard there Saturday and was raining again there to-day, and in order to keep things running on the present basis it is going to be necessary to put what foremen we have upon maintenance work, which will practically stop all new track laying.

Very respectfully,

W. E. DAUCHY, *Acting Chief Engineer.*

PANAMA, April 17, 1905.

Mr. JOHN F. WALLACE,
Chief Engineer Isthmian Canal Commission, Washington, D. C.

DEAR SIR: Up to the night of the 15th instant, we had taken out at Culebra 75,848 cubic yards of material. I have expected to get out about 150,000 cubic yards this month, but as the present week is holy week, in which it is almost impossible to get any labor done in this country, and owing to the further fact that the governor has issued a proclamation making Thursday and Friday of this week both holidays, we have left but ten more working days in this month, including to-day, and probably but a small proportion of the force will work at all between now and Easter Sunday.

Yours, truly,

W. E. DAUCHY, *Acting Chief Engineer.*

PANAMA, April 17, 1905.

Mr. JOHN F. WALLACE,
Chief Engineer Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I submit herewith the following brief report of operations in the construction and engineering department for the week ending April 15, 1905:

[F. B. Maltby, division engineer, Cristobal.]

The work of reconnoissance and building of stations for triangulation, also topographical work south of Gatun, has been continued.

The work of the relocation of the Panama Railroad between Gatuncillo Bridge and Monkey Hill has been continued.

Track work has been carried on in Cristobal yard and leading into the machine shop.

The work of reconstructing the light lumber wharf in the vicinity of magazine No. 4 has been continued, with a very small force.

Gatun section.—Mr. Nichols and party are engaged in completing drawings and data for his final report on the special work assigned to him.

[H. F. Dose, resident engineer, Bohio.]

Seven boring parties have been at work, viz: Two on the San Pablo dam site, one at kilometer 50, one at kilometer 51, two near Paraiso, one on the tunnel line.

Investigations at San Pablo are completed. At Paraiso 19 borings have been made since March 24. These borings are taken at every kilometer where the holes are extended to —40. In addition to these holes at even kilometers, holes are placed every 500 feet, but are only extended for the present to locate rock.

The boring party on the tunnel line started on the third hole early in the week.

The survey party at Bas Obispo has been filling in topography between Gamboa dam and the Panama Railroad tracks below Bas Obispo.

At Bohio survey has been made covering the territory on the south side of the Panama Railroad and near the San Pablo dam site.

The party in the upper Chagres is continuing the explorations and investigations.

[Boyd Ehle, acting division engineer, Culebra.]

Construction.—The total number of cubic yards taken out of Culebra during the week was 35,910, being an average of 5,985 cubic yards per day.

Steam shovel 105, the fifth of the 70-ton shovels, was started to work on Monday, making 7 shovels working in all.

Excavator 18 was also started up on Monday for the purpose of cutting a hole through the obstruction at the south end of the cut. This machine has been working quite poorly and we have numerous breakdowns.

Excavator 52 was out of commission the whole week on account of boiler repairs.

Surveys and technical work.—Inspection has been completed of all bridges on the Panama Railroad. Calculations of strains are under way.

Surveys have been made for tracks at Bas Matachin and for numerous tracks leading to the dumps.

Work on the extension of levels from Bas Obispo to Bohio is under way, and for the location of the center line from Pedro Miguel to La Boca.

The work of extension of culverts along the old Panama Railroad between the cut and Pedro Miguel Junction has been in progress.

[A. C. Harper, resident engineer, La Boca.]

Certain triangulation stations have been established and about 3,500 linear feet of clearing on branch lines, for topography, has been done.

[C. E. Davis, engineer of waterworks and sewers.]

PANAMA WATERWORKS.

Supply line from Rio Grande reservoir to Panama.—The entire amount of 16-inch pipe on hand has been laid, together with all specials. The completed pipe line extends to within a quarter mile of Miraflores station.

Distribution pipe in city of Panama.—Six hundred and thirty-five feet of 8-inch pipe and 141 feet of 10-inch pipe has been laid.

Panama sewers.—Nine hundred and eighty-two feet of 8-inch sewer pipe and 44 feet of 12-inch sewer pipe has been laid.

CULEBRA WATERWORKS.

Work has been continued on the 6-inch pipe line along the west side of the cut, for mechanical purposes.

Empire dam.—Work has been in progress of laying Decauville track from the Panama Railroad to site of dam.

GORGONA WATERWORKS.

Several hundred feet of 6-inch pipe has been laid leading to Bas Matachin shops.

COLON WATERWORKS.

Work has been in progress of laying Decauville track from the Panama Railroad at Mount Hope to site of dam.

[M. O. Jonnson, supervising architect.]

At La Boca wharf 1,403 feet of piling has been driven and 6,000 feet of lumber put in place.

At Ancon Hospital a force of 180 men have been at work.

At Corozal a force of 300 men have been at work; 125 of them were engaged on the bachelor quarters.

At Culebra the bachelor quarters are completed, and the kitchen and dining-room service has been established.

At Cristobal a force of 289 men has been at work upon general repairs to buildings, hospitals, etc.

[C. A. Strom, mechanical engineer.]

Bas Matachin shop.—The overhauling of one locomotive has been completed and work upon two others continued.

Work upon three additional locomotives has been commenced.

Thirty-five French dump cars have been overhauled.

At the foundry the usual number of castings have been made.

Empire shop.—The work of overhauling two locomotives has been completed and work on three others continued. Work has been started on six additional locomotives.

Twelve dump cars have been overhauled and put in service.

Cristobal shop.—Commenced work of overhauling two Cook locomotives and one Rogers switch engine.

EMPLOYEES.

The number of men at work on April 12 was as follows:

Silver men	-----	4,237
Gold men	-----	790
Total	-----	5,027

Very respectfully,

W. E. DAUCHY, *Acting Chief Engineer.*

PANAMA, April 18, 1905.

Mr. JOHN F. WALLACE,
Chief Engineer Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I have just cabled to you as follows:

"No further expansion of Culebra work possible without track foremen. None received since needs stated in December. Thirteen \$100-foremen, no railroad experience, received last two steamers. No use to us. No track tools received."

The 13 men referred to in this message are as follows:

1. James F. Cody, experience during the past few years has been on pack trains in the Philippines.

2. James Hayes; states he has had no experience as foreman at all.

3. Peter J. Quinn; claims several years' experience in the United States Signal Corps, as private, sergeant, and commissioned officer.

4. James J. Tubman; six years in the United States Battalion of Engineers; service in the Philippines as superintendent of road construction.

5. Charles M. Dodd; was in the stone business in New York; superintendent of the Cuba Stone Quarry Company for two years; later employed on excavation of foundations for Pabst Brewing Company, at Habana, Cuba.

6. Joseph B. Sampsell; eleven years' experience in grading; last four in employ of Philadelphia Gas Company.

7. John C. Stevens; employed for the past ten years as foreman for various telephone and electric companies in New York, setting poles.

The above men were all received last week. Yesterday we received by steamer the following:

8. Thill; experienced in ship rigging.

9. Montelin; foreman in plumbing and dry-dock work.

10. Vance; experienced in army work, fortifications, magazines, and earth-works.

11. Russell; colored; sewerage and water.

12. Derrig; had a chemical factory.

13. Logan; experienced at ship rigging.

I am at a loss as to what to do with these men and will probably have to discharge them all within a week or two, as they are of no service whatever to us.

The man who has had experience in plumbing work I am turning over to Johnson, and am trying to find places for the other men.

I wish you would arrange to stop the sending of this kind of material to us. As I wrote you yesterday, we have got to the limit of any expansion at Culebra without track foremen. We have been getting along with makeshifts until the work has now got to that scale that it can not be handled that way any longer, and it is imperative that we have experienced men. We have no opportunity at Culebra for running a kindergarten in track work.

Yours, very truly,

W. E. DAUCHY,
Acting Chief Engineer.

PANAMA, April 25, 1905.

Mr. JOHN F. WALLACE,
Chief Engineer Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I submit herewith the following brief report of operations in the engineering and construction department for the week ending April 22, 1905:

[F. B. Maltby, division engineer, Cristobal.]

The work has been continued of reconnoissance and building stations for triangulation; also for the relocation of the Panama Railroad between Gatuncillo bridge and Monkey Hill.

A party has been engaged in making surveys of the yard in the vicinity of Cristobal, locating all tracks, buildings, etc.

Borings are in progress around the dry dock at Cristobal to determine the character of the material, with a view to enlargement of the dock.

Various track work has been in progress.

A small force has been working on the light lumber wharf in the vicinity of magazine No. 4, 13 new bents having been completed.

Gatun section.—A party under Mr. Nichols, assistant engineer, has completed drawings and tables to accompany his final report on special work assigned to him.

Cross sections of the canal have been taken from the lower end of Gatun Island to K. 10.3.

One small boring party is engaged in taking borings along the line of the canal.

[H. F. Dose, resident engineer, Bohio.]

The survey of the upper Chagres for the purpose of locating the 200-foot contour for the right fork of the Chagres River has been completed above the junction of the Pequeni, and is now in progress on the Pequeni branch.

The Pequeni is a more important stream than the Chagres above their junction. The fall per mile is considerably less and the discharge probably somewhat greater.

The party engaged in boring on the tunnel line has done nothing during the week, the laborers having all left on account of it being Holy Week.

At Bas Obispo the topographical survey has been in progress, covering that portion between the canal and the Panama Railroad.

The various boring parties have continued work intermittently during the week, but very little has been accomplished on account of the holidays.

[Boyd Ehle, acting division engineer, Culebra.]

The work at Culebra has been somewhat interfered with during the week on account of there having been two legal holidays according to the governor's proclamation and the disinclination of the laborers to work during the other days of the week. No work was done on Good Friday.

The total number of cubic yards taken out during the week was 27,471, being an average of 5,494 yards per day during the five days that work was carried on.

The change resulting from turning back to the Panama Railroad Company some 200 laborers whom we received from them also interfered somewhat with the work and has made a reduction in the force. I hope, however, that this will be equalized by men drifting back to us from the Panama Railroad.

The beginning of the rains has also interfered with the work to some extent, on account of the bad effect they are having on the tracks and dumps.

Surveys and technical work.—Surveys have been made for new tracks and a rearrangement of the yard at the foot of the hill leading up to level 90.

Several surveys of lines to dumps have been made, cross sections continued, and markers have been set at various kilometers and points of curve and other governing points.

Progress has been made in surveys for line and levels from K. 59 toward La Boca. Progress has been made in all the general work in the way of topographical, mapping, and other office work. The various holidays, however, have delayed the field work.

[A. C. Harper, resident engineer, La Boca.]

One thousand and sixty feet of line has been cleared for cross-section work and for topography.

Clearing for triangulation station on Farfan Hill has been completed and the target erected.

A reconnoissance and survey of Los Tres Hermanos has been made for the purpose of locating a suitable spot for the erection of a monument to mark the boundary line between the Canal Zone and the Republic of Panama.

[C. E. Davis, engineer waterworks and sewers.]

Rio Grande reservoir.—Reconnoissance surveys have been made for a possible reservoir above the present Rio Grande basin, to increase the storage capacity.

Supply line, Rio Grande reservoir to Panama.—A small amount of concrete

work has been done around the galvanized pipe. The first delivery of 16-inch galvanized cast-iron pipe from the final consignment for the Panama waterworks has been unloaded.

Distribution pipe line in city of Panama.—Three hundred and four feet of 10-inch pipe and 780 feet of 8-inch pipe has been laid.

Panama sewers.—Five hundred and seventy-six feet of 8-inch pipe has been laid in connection with the waterworks pipe.

Culebra.—Work has been continued on the concrete reservoir back of the police station.

A small amount of 4-inch pipe has been laid along the west side of the canal as a distribution line for mechanical purposes.

Empire dam.—Work has been continued of laying Decauville track to site of the dam.

The pumping station at the marine camp has been taken charge of by Mr. Davis, by request of the officers in charge of the marines.

Gorgona.—Work has been continued of laying the cast-iron pipe for fire protection of the Bas Matachin shops.

Colon.—The work of laying Decauville track from Mount Hope station to site of the dam has been carried on.

Corozal.—About 200 feet of 6-inch pipe has been laid, completing the fire protection supply around the hotel.

Road construction.—Work has been continued upon the La Boca road.

The Caledonia bridge has been completed.

[M. O. Johnson, supervising architect.]

The various carpenter forces at different points along the line have been to work as heretofore outlined. Fair progress has been made with the bachelor quarters at Corozal, and they will be completed in about two weeks.

The work of Mr. Johnson's department is being very much delayed on account of lack of lumber.

[C. A. Strom, mechanical engineer.]

Bas Matachin shops.—The overhauling of 2 locomotives has been completed and the work continued upon 3 others.

Work has also been commenced in overhauling 1 additional locomotive.

Forty-five dump cars have been overhauled ready for service.

Empire shops.—The work of overhauling 8 locomotives has been continued.

General repairs on 4 locomotives received from Culebra have been continued and work commenced on 2 others.

Thirteen dump cars have been repaired ready for service.

Cristobal shops.—Work has been continued of overhauling 2 Cooke locomotives and 1 Rogers switch engine.

The work of installing the tie-boring machine and engine for same has been continued.

EMPLOYEES.

The total number of men at work on April 19 was as follows:

Silver employees	4,257
Gold employees	840
Total	5,097

Very respectfully,

W. E. DAUCHY,
Acting Chief Engineer.

PANAMA, April 26, 1905.

Mr. JOHN F. WALLACE,

Chief Engineer, Isthmian Canal Commission, Washington, D. C.

DEAR SIR: Replying to your letter of April 15 (inclosure 37), asking how our force is balanced at the present time, will state that we have a surplus of conductors and trainmen in the transportation department; the number of enginemen is about equal to our demands at the present time. We have at present in this department the following: Thirteen yardmasters, 25 conductors, 30 trainmen, and 31 enginemen.

In our mining department we have 16 steam-drill men, which is sufficient for our present needs.

In the excavating department we have a surplus of 2 pit foremen, 2 cranesmen, and 1 engineer.

In the track department we have about 8 foremen.

Now, as to our needs for the next ninety days, we have a sufficient number of trainmen for that time, provided the men we now have remain with us and prove to be competent men.

In our mining department the same thing is true.

As to our needs in the excavating department, the whole thing hinges upon our being able to get track foremen in order to provide for additional shovels, which situation I have explained thoroughly to you in a former letter. If we receive steam shovels fast enough to erect two a month and get track foremen sufficient to lay track to prepare for them, we should have about eight additional steam-shovel crews in the next ninety days.

As to track foremen, we should have 25 as soon as they can be sent to us.

We also need 20 men for dump foremen; these should be track foremen.

To summarize: There would be needed in the next ninety days, under the above conditions, 25 track foremen; 20 dump foremen, must be track foremen; 8 steam-shovel engineers; 8 steam-shovel crane men; 8 steam-shovel firemen; 8 steam-shovel pitmen; 10 steam-drill men.

The surplus of men on hand at the present time is 20 men, divided between trainmen and conductors.

We are very much in need of a man for the head of the transportation department, and also for the department of dumps. I think, also, that we will have to arrange for a man to take charge of the mining department, as Mr. Bennett is not handling that very successfully.

Mr. Beecher has left us, and I have put Mr. Zook in charge of both transportation and track departments for the present.

I think it is also important that a man be secured to have general charge of construction matters under the division engineer at Culebra, as outlined in our organization at Culebra before you went to the States.

Mr. Boyd Ehle has had an offer to go back to the States, and I think he is intending to accept it. If so, this is going to leave us very short of executive men at Culebra.

We are using the surplus trainmen as far as possible on the dumps.

We have completed the erection of the eighth steam shovel, although it has not yet been started to work.

The complete parts of two other shovels are here now upon the Isthmus and incomplete parts of two additional shovels.

Yours, truly,

W. E. DAUCHY,
Acting Chief Engineer.

PANAMA, April 26, 1905.

Mr. JOHN F. WALLACE,

Chief Engineer, Isthmian Canal Commission, Washington, D. C.

DEAR SIR: The steamer that was to have sailed yesterday will not get away before to-morrow. I had thought that we had gotten over our holiday troubles of last week, but Monday (which is termed "Easter Monday" in this country) was a big holiday for the Jamaican negroes and none of them would work. - We only got out 1,300 yards that day.

Conditions improved a little yesterday (Tuesday) and we got out 4,200 yards, but a large number of the negroes had not returned to work.

This long list of holidays is going to greatly interfere with our output this month.

We had heavy rains Saturday, Sunday, and Monday, which caused a good many derailments at Culebra, due to track conditions.

I note from the list of men coming on the steamer that sailed on Monday that there is no track foreman among them. Please get some track foremen started this way or things will come to a standstill at Culebra.

Yours, truly,

W. E. DAUCHY, *Acting Chief Engineer.*

PANAMA, May 2, 1905.

Mr. JOHN F. WALLACE,

Chief Engineer Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I submit herewith the following brief report of operations in the engineering and construction department for the week ending April 29, 1905:

[F. B. Maltby, division engineer, Cristobal.]

The work of relocation of the Panama Railroad between the Gatuncillo River and Monkey Hill has been completed. Maps and profiles have not yet been made.

The work of reconnoissance and building stations for triangulation has been continued with a small force.

The work of making surveys of the yards in the vicinity of Cristobal, with tracks, buildings, etc., and also locating the shore line and wharves around Colon, has been continued.

Some additional borings have been made around the dry dock. These borings have developed the fact that the indurated clay in which the dock is excavated disappears very close to the north side of the dock; it will, therefore, be necessary to do all the widening on the south side, or on the side opposite from the one contemplated by Mr. List.

A party has been placed in the field locating the center line of the canal south from K. 5.

The track work that was in progress has been continued.

The work of reconstructing the light lumber wharf in the vicinity of magazine No. 4 has been continued with a small force.

Gatun section.—A small party under Mr. Nichols has continued work of surveying and cross sectioning the canal and making borings along the line of same. Difficulty has been experienced in obtaining labor for this party, and the progress has been slow.

[H. F. Does, resident engineer at Bohio.]

Bohio.—Three boring machines are now at work near Tabernilla.

The surveying party at Bohio have been doing office work during the entire week.

Bas Obispo.—The survey party on the upper Chagres has completed the basin survey to the 200-foot contour on the Chagres River, and on the Pequeni River and tributaries thereof surveys have been extended approximately 4 miles above the junction of the two streams.

There remains now about 8 miles of river with the adjoining topography to be surveyed. It is expected that this will be completed about June 1.

The boring party on the tunnel line has resumed operations. This party has been delayed on account of lack of men.

Paraiso.—Two boring machines at Paraiso have made five borings during the past week.

[Boyd Ehle, acting division engineer, Culebra.]

The work at Culebra has been very much delayed during the past week by lack of laborers on the dumps. As wet weather has come on there seems to be a disinclination on the part of the men to work on the dumps, and it has been very difficult, if not impossible, to keep them at it. This notwithstanding the fact that we have offered them the inducement of the 17½ cents per hour rate.

Monday was practically lost on account of being Easter Monday, and none of the Jamaicans would work. On this day the output was only 1,378 yards.

The output for the week was 26,577 yards, being an average of 4,430 yards per day.

Surveys and technical work.—The survey of the center line from K. 59 toward La Boca has been carried nearly to the intersection with the long tangent to La Boca. The center line has now been cleared and measured to Gorgona, and levels taken over most of this section.

The work of extending the culverts between Cucuracha and Pedro Miguel Junction has been in progress.

The preliminary location survey for the Gamboa track to the dam site and to the bridge over the Chagres has been practically completed.

Two small parties have been taking topography along the Panama Railroad.

The rainfall for the week at Culebra was 1.78 inches.

[A. C. Harper, resident engineer, La Boca.]

The work of clearing for cross-section lines for topography has been continued; also staking out the center line.

Clearing for triangulation stations on North Ancon, San Juan, and Agua Dulce Hills has been completed.

[C. E. Davis, engineer waterworks and sewers.]

Pipe line from Rio Grande reservoir to Panama.—Three gangs have been started at work laying 16-inch pipe along the railroad track from Rio Grande to Panama, 2,500 feet having been laid during the week.

Distribution pipe line, city of Panama.—During the week 134 feet of 10-inch pipe and 1,632 feet of 6-inch pipe has been laid.

Panama sewers.—Six hundred and twenty feet of 8-inch sewer pipe and 75 feet of 12-inch sewer pipe has been laid.

Culebra.—Work has been continued of concreting the reservoir back of the police station.

The 6-inch pipe line for mechanical purposes has been laid between Culebra proper and Rio Grande.

Waterworks for marine camp at Haute Obispo.—Connection has been made between the pumping-station supply at Bas Obispo and the tanks located at Haute Obispo, and water has been pumped into these latter tanks.

Considerable of the old pipe has been torn up and preparation made for installing a pumping station for high surface system at this place.

Gorgona.—The concrete dam across the river has been completed.

Colon waterworks.—Work has been confined to laying Decauville track between Mount Hope station and site of dam.

[A. M. Burt, acting supervising architect.]

The usual forces have been at work at different points along the line of work in this department. Work is still being very much delayed on account of lack of lumber.

The bachelor quarters at Corozal are rapidly nearing completion, a portion of the upper stories being ready for service.

[C. A. Strom, mechanical engineer.]

Bas Matachin shops.—The overhauling of one locomotive has been completed and work continued upon three others.

Forty-one dump cars have been overhauled and put in service.

Empire shops.—The work of overhauling three locomotives has been completed and the work of overhauling 15 is now in progress.

Twenty-three cars have been repaired. These are old cars picked up along the line.

Five labor transportation cars have been also finished during the week and five more are under way.

Cristobal shops.—Work has continued on the overhauling of two Cook road engines and one Roger's switch engine.

Twenty French dump cars have been overhauled and made ready for service.

EMPLOYEES.

The number of men at work on April 26 was as follows:

Men paid in silver	4, 271
Men paid in gold	921
Total	5, 192

Owing to lack of rain gauges we are not able to report the rainfall at Cristobal and Panama.

Very respectfully,

W. E. DAUCHY,
Acting Chief Engineer.

PANAMA, May 3, 1905.

Mr. JOHN F. WALLACE,

Chief Engineer, Isthmian Canal Commission, Washington, D. C.

DEAR SIR: While you are in the States I wish you would, if possible, arrange to send us the proper number of men to superintend the different departments of the work at Culebra. At the present time we have but two men there, who are running the five different departments. These are Mr. Zook and Mr. Galvin.

Mr. Zook at the present time has charge of the track department, transportation department, and department of dumps.

Mr. Galvin has charge of the excavating department and mining department.

We should have at the present time the proper kind of a man to take charge of the transportation department, the proper kind of a man to take charge of the department of dumps, and the proper kind of a man to take charge of the department of mining.

In addition to these we should have a good second in each department who is capable of taking charge of a department during the absence of the head, either on account of sickness or leave or absence or otherwise. In addition to this we should have a first-class man as engineer of construction to assist the division engineer.

With regard to the men mentioned above, I think it is of the utmost importance that such inducements in the way of salary should be offered to the heads of these departments as would enable us to make a proper selection. Or, in other words, we should be able to pick our men instead of having to take such men as we can get.

What we need, in the first place, are men that are competent, and in the next place, men that will stay with the work. In order to get a cemented, working organization, it is necessary to have some degree of permanency, particularly with these higher class men.

Our whole organization at Culebra at the present time lacks stability on account of a large number of men being dumped upon us in a short space of time without a sufficient number of men in the higher positions to train them and make them available, particularly when the kind of men that the rank and file consist of is taken into consideration, and the further fact is taken into consideration that only 18 per cent of the gold men now at work at Culebra were there on the 1st of January.

Mr. Ehle has received a cablegram from the States which necessitates his going home at once. This will throw more work than ever upon Mr. Galvin and Mr. Zook, who are both doing all that can be expected of them, but neither of them has any staff whatever in the way of competent supervisors or assistants, and each one of them at the present time has several times as much to attend to as he can attend to properly.

I call your attention to this matter, as I would like very much to have the men for these positions selected while you are in the States.

Very truly, yours,

W. E. DAUCHY,
Acting Chief Engineer.

PANAMA, May 3, 1905.

Mr. JOHN F. WALLACE,

Chief Engineer Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I want to again call your attention to the character of the men that we have been receiving during the past month. No doubt the shipping of this kind of men has been stopped by this time, but for your information I present the facts to you.

I inclose you a list of cases of incompetent men who have been sent out recently. This is in addition to the list sent you by last steamer.

I wish to call your attention particularly to the case of Leslie J. Perry, who was sent out as supervisor of dumps at a salary of \$175 per month. This man's experience during the past nine years has been clerical experience in some department at Washington, a man 61 years old. He is not at all suited to the position he was sent to fill.

Yours, truly,

W. E. DAUCHY,
Acting Chief Engineer.

PANAMA, May 4, 1905.

MR. JOHN F. WALLACE,

Chief Engineer Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I wrote and cabled you yesterday with regard to our necessities for additional superintendents at Culebra. Mr. Ehle has resigned, partly on account of having received a better offer in the States, and partly on account of the condition of his family, which necessitated his returning home. It was the better offer, however, that finally decided him to go.

In this connection I wish to state that Mr. Galvin has asked for leave of absence, to which he is entitled and which should really be granted, as he has been in rather poor health for the last month and needs a rest to recuperate, but it seems to be impossible to let him go until we have additional men at Culebra.

I have arranged to put Mr. Zook in charge as acting division engineer. He has practically no one to assist him but Mr. Galvin. Although we are filling the other positions with such material as we have, it is only a makeshift.

I have just cabled you as follows:

"Heavy rains have put tracks and dumps in bad condition at Culebra. Output is steadily decreasing; costs have increased rapidly. We must have track foremen. Need tie plates, requisition 350A."

Our tracks and dumps are getting in very bad condition, and our output has dropped down to 3,000 or 4,000 yards a day. Owing to the fact that we have no track foremen to keep things in shape, derailments are constantly taking place, dumps are slumping off, and the required rebuilding of track and lack of proper superintendence are demoralizing the work generally.

I am giving as much personal attention to the Culebra division as I have time to give, but the situation is such that it needs the proper kind of a man there constantly. Not only that, but he needs proper help.

We have heard of but one track foreman coming from the States. Unless we get a large number of them and get them promptly, things are going to come very nearly to a standstill at Culebra.

We should have at least 40 men of the caliber of the ordinary section foreman to take care of tracks and dumps at the present time, whereas we have but about 3 that are worth their salt.

It is impossible to find track foremen among the trainmen and other men being sent down here. They are not upon the Isthmus and must be sent from the States or elsewhere.

Yours, truly,

W. E. DAUCHY,
Acting Chief Engineer.

PANAMA, May 6, 1905.

MR. JOHN F. WALLACE,

Chief Engineer, Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I will endeavor to give you an idea of the present condition of affairs at Culebra, brought about by very heavy rains coming upon us in our unprepared condition, and on account of the general demoralization due to the yellow-fever scare and other causes, and I hope that when you have read this letter you will not class me as a pessimist.

1. *Regarding tracks.*—Owing to the fact that we have been almost entirely without track foremen during the whole of the dry season, and to the further fact that it has been necessary to keep all of the track forces that we had at work constructing new tracks to prepare for the installation of steam shovels, we have had no opportunity to do any work toward fixing up existing tracks during the dry season in order to get them in shape for the rainy weather.

This, together with track conditions brought about by the Belgian rail on soft ties without tie plates, has caused our tracks to become almost impassable now that we have had a couple of weeks of rainy weather.

Derailments are taking place constantly, and without proper facilities for rerailing engines and cars, some of our shovels have been delayed hours, and sometimes days, at a time.

We have as yet received but one track foreman, but I am very glad to see that there are several on the steamers that have left New York and New Orleans, and I hope that these men will be followed by a good many more.

It is going to be a difficult matter to do proper track work during the rainy weather, and just how successful we are going to be in doing it remains to be

seen. But it is going to be necessary to have proper materials in the way of rails, tie plates, and fastenings.

2. *Regarding dumps.*—The sticky clay material which we have been handling on level 90 meters and from steam shovels 202 and 103, where it has been deposited at the dumps, is acting in the same manner as it acted before the material was taken out of the cut, and this to a greater degree—that is, it slips down and sloughs off from the dumps, taking the track with it in some cases and in others leaving great holes 15 and 20 feet deep, making the dumps at times impassable and unsafe for engines to go upon them.

Another trouble we are having is in handling this sticky material on account of it sticking fast to the dump cars, in all cases having to be shoveled off. This takes a great deal of time and is very expensive, and delays very much the working of the steam shovels. I am trying to rectify this difficulty by arranging to work the shovels as far as possible in harder material, but to do this is going to necessitate laying a large amount of additional track, which can not be done at once on account of the difficulties mentioned under the head of tracks.

As to relieving the dump situation by using the Panama Railroad to dump from, we are doing this in the case of steam shovel 103, using the Panama Railroad between Culebra Y and Empire; but the same difficulty comes up with regard to delays on account of material sticking to the cars.

We are also prevented from doing this to any great extent on account of lack of cars, as the additional time it takes to run trains any distance on the Panama Railroad necessitates a larger number of cars than we have at the present time, and to operate in this way successfully we should have flat cars so that we can use the Lidgerwoods and bank spreaders. On account of the situation of some of our shovels it is impossible to reach the Panama Railroad with the output at present.

I am arranging to relieve the situation somewhat on level 90 meters by taking one of the shovels from that level and working it in the bottom of the canal where we had steam shovel 105 working. No. 105 is working at the barrier at the south end of the cut, and we are also arranging to start No. 106 at this same place as soon as we can get the track laid; but this work is going to be necessarily very slow and expensive, and the output of the shovels very small while it is going on.

Now, these conditions of tracks and dumps are the result of lack of preparation, which has been due to lack of material and men. I am satisfied that our shovels can work during the rainy season in a satisfactory manner, and the output per unit approximate what we have estimated; but to reach that output during the rainy season is going to necessitate a large amount of preparatory work in the way of proper track construction, proper dumping facilities, and proper equipment, which, of course, is going to take time to prepare and install.

3. *Regarding men.*—I have sent you one or two cablegrams the past few days stating our needs. The yellow-fever scare has caused great demoralization among our forces all along the line. While this demoralization is entirely uncalled for and unnecessary, and we have done everything we can to check it, yet the effect upon our work is the same.

Yesterday Mr. Galvin had a strong attack of "cold feet" and has quit and is going back by the steamer Monday. This practically leaves Mr. Zook alone at Culebra.

We have arranged a temporary organization, as follows, and will do the best we can:

I have placed one of Mr. Ruggles's men, a young man by the name of Thorn, in charge of excavating matters.

I have put a man by the name of Charles E. Vettler in charge of transportation matters. Mr. Vettler is one of our yard masters lately sent out, and while I do not know much about him at present, he appears to be above the balance of the men we have been receiving in intelligence, and the only thing we can do is to give him a trial.

I have put mining matters in charge of William D. Waltman, a young fellow who has recently come to us who has had no great experience, but who seems to be a bright young man and is more available than anyone we have.

As to dumps, we have three dump supervisors coming on steamers now on the way, and if they all have not reached their dotage and have had any experience whatever tending to fit them for the work, we hope to select some material out of the three to look after dump matters. The last man sent us as supervisor of

dumps was a man 61 years old, and his only experience has been in a clerical line.

I have put Mr. A. T. Davis temporarily in charge of tracks. While he is not fitted for the job, he is the only available man we have.

In regard to laborers, we find it almost impossible to get laborers to work during the rains, so that when we have a large amount of wet weather, as we have had in the last few days, everything practically stops.

We have a large surplus of trainmen and conductors, some of them pretty fair men, others not worth much. I think, however, that a large number of them are going to quit after pay day, as they are all affected by the yellow-fever scare.

We have one man who lately came down as supervisor of engines by the name of Murray, who is a good man and is doing good service.

A general yardmaster by the name of Callahan arrived here last week, at \$175 per month. He never went to work and took the next steamer back.

I hardly know what to recommend with regard to stopping the sending of additional trainmen and steam-shovel men. The steam-shovel men thus far do not seem to have been affected by the demoralization as much as the other departments, and most of them are doing good work, but from the present outlook it seems to me that we can do little or nothing in the way of expansion until a large amount of preparatory work has been done, and that being the case it does not seem to me that we are going to be able to use the number of trainmen that we have on hand for some time to come. On the other hand, if a large percentage of them get frightened and leave we may not have a surplus.

4. *Regarding buildings.*—On account of having no lumber we have not been able to push the work of preparing quarters for men. At the present time we are more crowded than we have been at any time since the work started.

The hotel at Culebra which was designed to accommodate 60 men now has 102 occupants, and all of the houses are more than full, and we are putting men in tents.

This crowded condition is, of course, causing dissatisfaction among the men, particularly now that the wet weather is upon us. Men come in from the work wet through, and where several of them are in a small room with wet clothing and so on, it is unpleasant for them, and is one of the reasons for dissatisfaction.

We are doing all we can to rush preparation of the quarters for marines at Haut Oblspo, so that we can have the use of the buildings at Empire. But this is delayed on account of material, and also on account of Lieutenant Wood's objection to going there until sanitary conditions are put in the best possible shape.

Our output at Culebra for the past week has been as follows:

	Cubic yards.
Monday	3,935
Tuesday	3,068
Wednesday	3,624
Thursday	3,200
Friday	1,215

On Friday it rained all day, which practically knocks out the entire output. With the number of gold men that we now have at Culebra our expenses are such that our unit costs are going to go sky high on account of the decreased output and time lost on account of rains.

While the outlook is far from encouraging at the present time we will do the best we can under the existing circumstances, but I am strongly of the opinion that our efforts during the next few months have got to be devoted to preparation rather than to an expansion of work.

Yours, truly,

W. E. DAUCHY, *Acting Chief Engineer.*

PANAMA, May 8, 1905.

Mr. JOHN F. WALLACE,

Chief Engineer, Washington, D. C.

DEAR SIR: I send you herewith a memorandum sheet showing the output at Culebra for the month of April and the cost of the principal items. This sheet is gotten out in advance of the regular report and there may be some minor changes, but probably none to amount to anything.

In this connection I wish to state that Mr. Ruggles some way is all mixed up on his figures for the monthly estimate for April. As you know, heretofore our carload measurements have checked very closely each month with cross-section measurements, but for the month of April the figures are away off. Mr. Ruggles's estimates only giving us 114,085 cubic yards, when our carload records show 129,638 cubic yards.

The discrepancy is largely at steam shovels 202, 101, and 102, all three of which are working in sliding material.

I have tried to get this matter straightened out, but Mr. Ruggles is sick in bed and the men who did the cross sectioning are some of them away, so that I have decided to take as a basis for the estimate for the month of April the figures as given by Mr. Ruggles's cross sections in all cases except at steam shovels 101, 102, and 202, in which cases I have taken the carload measurements as the output for the month in place of cross-section measurements, as I am positive the cross-section measurements do not show even approximately the monthly output. After Mr. Ruggles gets well I will try to have him straighten this out.

This gives as the output for the month only 126,749 cubic yards, as against 132,840 cubic yards for the month of March, when, in fact, we took out nearly 300 cars of material more in April than we did in March, and the cars were loaded equally as well.

Taking these figures as the basis of our estimate, our costs for April, you will note, are 52 cents per yard. On this amount $3\frac{1}{2}$ cents per yard is due to surplus train men who have been of no service to us, and also on account of wages paid for time of men in transit between the States and Culebra. If these items were deducted it would make the cost about $48\frac{1}{2}$ cents per cubic yard for the month of April.

The primary reason for the increase of about 5 cents over the month of March is the large amount of time lost during the latter part of the month on account of holidays and holy week.

Very respectfully,

W. E. DAUCHY,
Acting Chief Engineer.

Approximate comparative statement of cost of work at Culebra during the months of March and April, 1905.

^a[Cost in United States gold.]

Character of work.	March, 1905, total output	April, 1905, total output
	132,840 cubic yards.	126,749 cubic yards.
Plant (covered by arbitraries).....	0.0800	0.0800
Mining .....	.0750	.0738
Loading .....	.0705	.0897
Transportation .....	.1105	.1708
Dumps .....	.0471	.0443
Maintenance of tracks.....	.0435	.0447
General expense.....	.0262	.0420
Total .....	.4328	.5247

ISTHMIAN CANAL COMMISSION,
Panama, May 9, 1905.

Mr. JOHN F. WALLACE,

Chief Engineer Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I submit herewith the following report of the operations of the engineering and construction department during the month of April, 1905:

[F. B. Maltby, division engineer, Cristobal.]

Beginning with the month topographical surveys were in progress to obtain necessary information for the relocation of the Panama Railroad between Gatuncillo and Monkey Hill. Since then the line has been run upon the ground and completed.

Surveys are in progress to determine the location of the shore line, wharves, piers, tracks, and buildings, and other features of the territory from the dry dock to the beach at the north end of Colon.

A small party has erected some stations and signals for a system of triangulation.

Borings have been made around the outside of the dry dock to ascertain the character of the material, with special reference to the enlargement of the dock.

The work of remodeling the tracks in the Cristobal yards has been in progress.

The material tracks at wharf 14 have been repaired and all the tracks in the yard at Fox River. The tracks leading to the machine shops have been practically rebuilt.

Wharf work.—The wharf work has been confined to the reconstruction of the light lumber wharf near magazine 4, and owing to the lack of material only a small force has been employed.

A shed has been erected over the tie-boring machine near wharf 14.

The health of the party throughout the month has been exceptionally good.

Gatun section.—A very small party, under Mr. Nichols, has completed the field work, maps, tables, and report on certain special work assigned to him by the chief engineer. Surveys of the canal between Gatun and Bohio, and borings along the line of same, have been in progress, but owing to the scarcity of labor the progress has been slow.

[H. F. Dose, resident engineer, Bohio.]

On the 1st of the month, owing to Mr. Boyd Ehle, resident engineer at Bas Obispo, having been transferred to Culebra as acting division engineer, Mr. Dose was put in charge of the work at both Bohio and Bas Obispo.

Bohio.—The survey party at Bohio has completed the tabulation of records and data relating to final reports on an investigation at Bohio for the period ending February 28, 1905; survey of the Panama Railroad from Cristobal to San Pablo has been completed and estimates of costs of construction made.

The largest portion of the work done during the month has been office work.

Bas Obispo.—The basin survey of the upper Chagres has been continued with some interruptions due to religious holidays observed by the laborers.

The topography adjoining the Chagres and all its tributaries has been taken to the 200-foot contour and the valley of the Pequeni River, including its tributaries, has been covered to a point some distance above the settlement of San Juan.

The progress of the party in charge of the boring of the tunnel line has been slow on account of the difficulty in obtaining laborers.

Two borings on this line had been completed previous to April, and during the month a party was working on the third boring.

Two boring machines have also been at work near Empire, two at Parniso, and three between Tabernilla and Bohio.

[Boyd Ehle, acting division engineer, Culebra.]

The total amount of material taken out of the cut at Culebra during the month of April was 126,749 cubic yards, as against 132,840 cubic yards in the month of March.

The decrease in the output was due to the fact that there were but twenty-four working days in the month of April, as against twenty-seven in the month of March, and work was very much delayed during Holy Week and various Jamaican holidays during the latter part of the month.

The cost per cubic yard of material removed during April was 52.4 cents, as against 43.3 cents during the month of March.

This increase in cost is due to, first, the decreased output caused by numerous holidays, the organization at Culebra now consisting of such a large number of gold employees that a large portion of our daily expense is constant, whether any work is done or not, and where time is lost on account of holidays or lack of sufficient labor the cost of the output is very materially increased.

The second cause for increased expense is the fact of having a surplus of men above the needs of the work in certain departments, particularly in the transportation department, and the increased cost due to the payment of men in transit from the United States.

These last two items amount to 3.4 cents per cubic yard on the entire output for the month.

On April 10 another one of the new 70-ton Bucyrus steam shovels was put to work.

During the last week in the month the rainy season started in, and its effect began to be felt at once in the general condition of tracks and dumps. On

account of lack of preparatory work during the dry season, which had not been done on account of the lack of track foremen, tools, and proper material, the tracks are in no condition to stand up under traffic during wet weather.

The consequence is that as soon as the rains commenced the tracks began to go down, and derailments, which had bothered us more or less during the dry season, became much more frequent.

On the dumps the clayey material which had been hauled out during the dry weather, as soon as it began to feel the effects of the rain, commenced to settle and slough off, putting some of the dumps in almost impassable condition.

In addition to this trouble of sliding, this clayey material which was taken out of the cut when it is rained upon sticks to the dump cars and has to be shoveled off by hand, which causes a great deal of delay and adds greatly to the expense.

The labor situation has been a little worse during April than during the preceding month. The average number of laborers employed in all departments was 1,795 in the month of April, as against 1,837 in the month of March.

Several new dumps have been established along the Rio Grande Valley, near the village of Lirio and at Paraiso, and tracks leading to them have been laid.

Tracks have also been laid preparatory to starting steam shovels Nos. 105 and 106 and French excavator No. 18. French excavator No. 18 was started at work on the 8th of the month in order to cut an opening through the barrier at the south end of the cut in order to prepare for steam-shovel work. The output of this excavator has been very small, and the work it has been doing has been entirely of a preparatory nature.

The need of track foremen, which was mentioned in the report for March, is more pressing now than ever, no track foremen whatever having been received during the month of April.

The rains having started during the latter part of the month has made it necessary to put what track men there are working upon such tracks as are laid in order to keep them in passable condition, which has made it necessary to stop all laying of new tracks preparatory to installing additional steam shovels.

[A. C. Harper, resident engineer, La Boca.]

The work that Mr. Harper has been doing during the month has been entirely of a preparatory nature, and consisted of cutting of lines in order to enable surveys to be made and preparing triangulation stations.

[C. E. Davis, engineer waterworks and sewers.]

Panama waterworks.—No work has been done on the Rio Grande reservoir. The elevation of the water in the reservoir has been kept at approximately 225 feet during the month, water being turned off every few days for supplying the demands of Culebra cut.

The discharge of the Rio Grande into the reservoir reached the minimum flow during this month of approximately 300,000 gallons per twenty-four hours. The rains during the latter part of the month have increased this flow.

On April 18 the balance of the water pipe arrived in Colon. Delivery of several thousand feet of 16-inch pipe has been made and 2,800 feet of it laid upon the supply line between Rio Grande reservoir and Panama.

In the city of Panama 3,565 feet of various sizes of distribution pipe have been laid.

Panama sewers.—Sewer pipe has been laid during the month continuously with the water pipe, about 2,000 feet having been laid of different sizes.

Culebra.—The distribution reservoir back of the police station has been completed, and the work of laying the main on the west side of the cut for mechanical purposes has been continued.

Corozal.—A small force has been engaged in laying a 6-inch line of pipe to the bachelor quarters at Corozal. This will be connected with the main distribution line leading to Panama and will furnish excellent water service.

Gorgona.—A line of 6-inch pipe has been laid from near Gorgona Station to Bas Matachin shops for fire protection of the shops.

The concrete dam across the river has been completed, providing storage at the site of the pumping station for several millions of gallons.

Haut Obispo.—A force of 7 or 8 men has been employed during the last week of the month in installing the waterworks system at Haut Obispo to supply the new quarters of the marines.

Empire.—A construction force has been organized for work on the dam, the site for which has been cleared and a Decauville railroad is now being laid to the same from the Panama Railroad track at Empire.

Colon.—Preparatory work has been done, consisting of laying Decauville track from the Panama Railroad at Mount Hope to the site of the dam. Preparations are now being made to push this work, but not much can be done until more laborers are obtained.

[A. M. Burt, acting supervising architect.]

At Ancon Hospital grounds minor repairs have been made to buildings, and the 4 houses comprising the leper hospital are practically completed and will be turned over to the sanitary department as soon as painted.

The new hotel for bachelors at Corozal is practically completed, 28 rooms being now occupied.

Work on the new houses to be used as quarters for married employees has been commenced and fair progress has been made.

The work of repairing houses for sanitary and other departments at Miraflores has been completed as far as authorized.

Minor repairs have been made to houses at Paraiso, Empire, Bas Obispo, Matachin, Gorgona, Mamel, Gatun, and Monkey Hill.

At Cristobal 34 buildings are being raised and repaired.

The construction of the new police station and new detention hospital at Cristobal is well under way.

[C. A. Strom, mechanical engineer.]

The work of the three shops at Bas Matachin, Empire, and Cristobal has been largely devoted to overhauling of engines and dump cars. Twelve locomotives taken from the storehouses have been overhauled and placed in service.

In addition to these, special general repairs have been made to 7 locomotives temporarily disabled at Culebra. Repairs have been completed on 234 of the old French dump cars, and these have been sent to Culebra to take the place of the bad-order cars shipped from there to the shops.

As no lumber has been available, it has been impossible to commence the erection of buildings for the enlargement of the shops that have been authorized.

The work of repairing French dump cars has been seriously delayed on account of lack of material that was ordered from the States last November.

Notices are now being received of the shipment of this material, and it is hoped that a better showing may be made upon its arrival.

EMPLOYEES.

On the 20th of April the number of employees carried on the pay rolls was as follows:

Number paid in silver currency.....	4, 120
Number paid in gold currency.....	912
Total.....	5, 032

Very respectfully,

W. E. DAUCHY,
Acting Chief Engineer.

PANAMA, May 22, 1905.

MR. JOHN F. WALLACE,

Chief Engineer Isthmian Canal Commission, Ancon.

DEAR SIR: It is going to be necessary to do a large amount of preparatory work before we can install many additional steam shovels at Culebra. On May 6 I wrote you quite fully with regard to the conditions of the work at Culebra; not knowing whether this letter reached you at Washington before you left there, I attach a copy hereto.

The conditions existing at Culebra are no better than when this letter was written, but are a little worse, and will get no better until we get things shaped up in a proper manner for taking care of the output.

I therefore make the following recommendations with regard to preparatory work, which I consider necessary to be done:

A double-track railroad should be laid from the vicinity of Pedro Miguel Junction along the center line of the canal to the barrier that is now being removed at the south end of the high portion of the Culebra cut. This double-track road should be connected with the present Panama Railroad at Paraiso and, perhaps, one or two other points between the Rio Grande reservoir and Pedro Miguel.

It should also be connected with the old Panama Railroad at two or three different points between Pedro Miguel Junction and Cucuracha.

A double-track railroad should be laid from the Chagres River near Bas Obispo along the lowest excavation in the canal to Culebra, this to be connected with the Panama Railroad at a point between Empire and Las Cascadas, at Bas Obispo, and at a point about halfway between Las Cascadas and Bas Obispo.

The double-track railroad in both of these cases to be used for excavating tracks, in order to shape the cut up for proper working on the terrace plan; and the Panama Railroad should be used as an outlet for hauling away the material through the various connections suggested above.

Wherever these connecting tracks leading from the double-track line along the center of the canal to the Panama Railroad, join the latter, storage yards should be put in, so that loaded cars taken from the steam shovels could be set out at these points and taken from there to dumping points by trains running exclusively over the Panama Railroad.

This arrangement would give an outlet for the material on both the east and west sides of the south end of the cut, and on the west side at the north end of the cut. As to the material to be taken out on the east side at the north end of the cut, perhaps the most advantageous way of handling it would be the construction of a track leading to the Gamboa dam site. Mr. Ruggles has made a preliminary survey of such a track. It will be in the neighborhood of 4 miles long and will be very heavy work.

If this track is constructed, it will require a regular grading outfit in the way of a large number of teams, scrapers, etc., and will take quite a little time to construct.

If this line is constructed, a connection between it and the Panama Railroad in the vicinity of Matachin should be made in order to get equipment, fuel, and supplies to this piece of track.

A new switch-back track should also be constructed at once connecting level 90 meters with the lower level. This is absolutely necessary in order to carry on any further work at lower levels on the east side of the canal below level 90.

The tracks comprising what we now call the "Lirio yard," on the east side of the cut north of our engine house, should also be rearranged and a track extending from this yard along the east side of the canal outside of the canal prism be constructed. This is necessary in order to get rid of the tracks which are now within the canal prism and are in the way of future operations in that locality.

The question of moving the houses from the old village of Culebra should be taken up at once, as in order to carry on our work on that side of the canal it is necessary to move back the old Panama Railroad to the limits of the canal prism and start steam shovels working along in front of the village in order to shape up the cut for excavation at lower levels.

A map of this property has been made and was given to Governor Davis some time ago, requesting that arrangements be made to put us in possession of this property.

The question of the control of the Sardinilla River and the east fork of the Obispo River should be decided upon and the work of such control put into effect at once, as these two streams, which come together near Las Cascadas, flow along the center line of the canal from that point to Bas Obispo, and but little work can be done in that vicinity until this water is taken care of in some manner, nor can the canal be deepened to any great extent between Empire and Bas Obispo until this water is taken care of, as it is necessary in order to provide drainage the whole length of the cut to open out this portion of the canal through which the river now runs.

In order to use the new equipment, a portion of which is now on the Isthmus, it is going to be necessary to relay all of our present tracks with different rails from the high Belgian rail, to put tie plates on the soft-wood ties, to surface these tracks, and to ballast a portion of them and put them in reasonably good condition to handle the output of the shovels.

I think we should arrange for the future erection of steam shovels at Bas Matachin or Empire and take this work entirely away from Culebra in order to avoid handling material over our present Culebra track.

Engine houses should be established at once at Pedro Miguel and at some point between Empire and Culebra, and proper facilities for storing and handling coal should be provided in their vicinity.

Additional engine houses should be established in the vicinity of Bas Obispo and some point on the east side of the canal at the north end of the cut as soon as the proper location can be determined upon.

A large number of dumps should be established at accessible places along the Panama Railroad, and such places should be selected where the dumps can be established with a face varying from 10 to 20 feet in height. In no case should our dumps exceed the latter limit except for material taken from higher level, such as level 90 meters on the east side of the cut at the north end, where it is easier to handle material on higher dumps rather than to attempt to take it down to a lower level. We should put our new flat cars in service at our present steam shovels as rapidly as we can get the track prepared for them, and put our Lidgerwood unloaders and bank spreaders in use in connection with them.

In order to handle the output from the cut rapidly and expeditiously it is going to necessitate establishing a large number of dumps that will be accessible to the Panama Railroad or other tracks leading from the shovels, and in order to work these dumps properly we are going to need a great many more Lidgerwood unloaders and bank spreaders than have now been provided, as these conveniences should be supplied at every dump.

The double tracking of the Panama Railroad should, of course, be done in connection with the plan as above outlined.

Our present drilling facilities are entirely inadequate to handle the work. In the first place, it is necessary to have a track to within a short distance of the spot where the drills are to be worked in order to get the boilers which we are using at the present time in connection with the steam drills to the point where drilling is to be done. On account of this necessity it has been impossible for us to operate our present steam drills on higher levels, because we could not convey steam to them with our present facilities.

In addition to the drilling machinery that has been ordered we should have a number of 5½-inch drills, such as are manufactured by the Star Drilling Machine Company, of Akron, Ohio. These drills are operated by a derrick in connection with a portable engine and boiler, and holes can be drilled to any depth. These machines are urgently needed for knocking down material from higher elevations, and also for drilling in isolated places between Empire and Bas Obispo in doing preparatory work in the way of laying track through the lowest portion of the cut as it now exists.

As practically all of the new steam shovels that are erected from now on will have to start work between Pedro Miguel Junction and the south end of the high portion of the cut at Culebra, and from Empire to Bas Obispo, it is imperative that most of the track work, as outlined above, will have to be done before such shovels can be installed, and as such shovels will have to work for some time in places where they will have little or no face to work upon, in order to shape the cut up for future working, the output of such shovels for some little time is going to be necessarily small, their work being entirely of a preparatory nature.

It is also going to be necessary to interfere to some extent with the output of our present shovels in order to rebuild the existing tracks and put them in proper shape for handling material; but this work must necessarily be done before we can handle material expeditiously and economically.

I think all of this work as outlined above should be considered as of paramount importance and the output of the shovels of secondary importance.

In other words, our whole energies should be devoted to this preparatory work rather than to a large output and small unit costs.

With regard to our organization at Culebra, I think it is of the utmost importance for the carrying on of the work not only that the men selected as heads of the different departments should have the proper qualifications, but that they should stay continuously with the work, at least until a thorough organization is perfected.

If it is necessary to pay higher salaries in order to get such men and to induce them to stay, there is no other part of the work, in my opinion, where the money could be more judiciously spent. Practically all of the time of the division

engineer for the past six months has been devoted to training heads of departments, instructing them in the methods of work, trying to enthuse them with an esprit de corps, and in endeavoring to cement the force in a working organization commensurate with the requirements of the work.

All of this work has been practically lost except in so far as it has helped increase the output for the past months, as the working force at Culebra changes so rapidly that one man has no more than gotten a fair idea of what is required of him than he is gone and an entirely new man is in his place.

The heads of departments should be men of such caliber that they will look closely after the details of the workings of their departments, watching all points where efficiency of work can be increased and costs decreased.

Heretofore all of this work has devolved upon the division engineer himself. The division engineer should have an able assistant to take general charge of the heads of departments and to oversee the carrying out of his plans, so that his time may be largely devoted to the formulating of general plans for the carrying on of the work.

In order to carry on the work as outlined above and to push it as it should be pushed, it is going to be necessary to make a large addition to our laboring forces. If we have to do all the grading and other preparatory work for laying track with picks and shovels, as we have had to do heretofore, we should have at least 5,000 men working exclusively upon this preparatory work in order to get it done within a reasonable length of time.

If the new piece of track is to be built leading from the cut to the Gamboa dam site we should have a regular large-sized grading outfit to do this work. In fact, I would strongly recommend that grading of that character be done by contract.

Respectfully, yours,

W. E. DAUCHY, *Acting Chief Engineer.*

Personal.]

ANCON, ISTHMIAN CANAL ZONE, May 2, 1905.

MY DEAR MR. WALLACE: I have your letter of April 16, and am glad to know that you are satisfied with the situation of affairs with respect to the new Canal Commission. I hope, with all my heart, that the work will go on steadily without delay or hindrance to a successful completion.

The death of Johnson has caused a sadness throughout the community in which he was so well and favorably known, and all lament his untimely taking off. There is something in it that comes home to me with special force, for it is like the ending of many a bright young man I have seen on the battlefield.

April passed with only two cases of yellow fever until near the end of the month; then two men, working in the canal building, were taken sick—Johnson and a Mr. Wilkes. This morning Colonel Gorgas tells me that two others are reported as having yellow fever; one from the canal building, and the other the laundryman at the Ancon Hospital.

There seems to be no doubt that the canal building itself is infected; it is almost certain that Johnson contracted the disease there. The whole establishment has again been disinfected, making the third time, and I have asked Colonel Gorgas to put a special inspector of the sanitary department on watch in this building to see that there shall be no place whatever in the whole structure where mosquitoes can breed. Every opening in the building is closed, and all doors are covered with screens, and I am going to see if there is such a thing as excluding mosquitoes from the building. I have myself observed during the last two weeks special activity among mosquitoes in my office. Mr. Dauchy tells me that his experience is the same, and others have mentioned it to me. It seems certain that mosquitoes are breeding on the premises. This condition shows how eternally vigilant everybody must be to prevent these insects from infesting buildings and doing their work.

A week ago I had an attack of malaria, which has lasted until now. I do not seem to be able to shake it off, although I have swallowed quinine by the bottle full. The fever does not go very high, but high enough to make me feel very disagreeable. This is the first sickness of any kind that I have had since I came to the Isthmus over a year ago.

I think it is a very great misfortune that you are obliged to be absent at this particular time. You must remember that this is a transition period. The old Commission is discredited and dismissed, and not one of the new Commission has as yet arrived, while you have been absent for reasons that you could not control. This leaves a state of affairs on the Isthmus that is, I think, very

much to be regretted. There is no head here to command the necessary confidence and respect, and there is a great deal of bickering and fault-finding and scolding among the employees all along the line. This situation is constantly coming to my knowledge. The character of the employees sent here from Washington leaves very much to be desired. Of course Mr. Dauchy has told you of this time and again.

I have talked with Dauchy frequently concerning the status of affairs, and I agree with him in what he has written to you of the very great desirability of not adding any more to the force here until we are better organized and better able to take care of those who come.

We are now pitching tents at Culebra for sheltering United States employees. The employees occupying the tents are naturally discontented and find fault. The death of Johnson and of the other man has almost created a panic, and I suppose a great many men will go back on this week's steamer to the United States.

I think it is of the utmost importance that you and Judge Magoon should come to the Isthmus at the earliest possible time as the representatives of the United States and the new Commission with authority to act, and be recognized as possessing that authority. I think this is a matter of very serious import, and it is because I am your friend and wish you well that I say this to you.

If Mr. Shonts could be here also for a month or two during this period of change to familiarize himself with everything on the Isthmus, I think it would also be of great benefit, but of course I know he has many other things to attend to.

I have not yet even heard of a definite date named as the time when I will be relieved, but I am counting on getting away before the end of this month. This is, however, based on hope rather than on expectation.

The delay in the receipt of timber is interfering greatly with building. Quite a number of buildings have been authorized for the health and other departments of the Zone government, and the fact of the authorization has been communicated to your department here, but nothing can be done in commencing work until the arrival of lumber.

Plumbing material is also deficient. The toilet rooms in the canal building are in the same state as when you left, for the reason that there is nothing on hand to work with. I was told the other day that a large number of plumbers on the Isthmus are practically idle because there is no material, and the same condition, I understand, is true of carpenters.

Although this is hearsay, I fear it must be true from the fact that there is no lumber on hand of the sizes necessary. A sailing ship with a cargo of lumber from San Francisco is now overdue three or four weeks. When it will arrive no one can say, as navigation by sailing vessels on the Pacific Ocean and Panama Bay is proverbially difficult.

I think I have never known of an instance where the strong directing hand of a man in power was more necessary than it is here now. Mr. Dauchy does the very best he can, and is patient and painstaking, but he is not regarded as the "head" in the real sense, and I am confident that the present acting resident engineer at Culebra is entirely unequal to his task.

Very sincerely,

GEO. W. DAVIS, *Governor.*

MR. JOHN F. WALLACE,
Chief Engineer, Washington, D. C.

MAY 3, 1905.

P. S.—The foregoing was dictated yesterday, and since then four other cases of fever have been diagnosed as "yellow fever" and taken to the hospital. Two of these cases are light and will cause no serious sickness. The case which gives the most concern now is that of Mr. West, the auditor, who has been sick two days, and in respect to whom the prospects are that he will be very seriously sick, as I am informed by Colonel Gorgas.

How the infecting of the canal building has been accomplished it is not easy to understand. Of course a large number of nonimmune people are employed in that building than in any other in the city, and it is a wonder to me how it is that we have not had many cases, among those employees who do their work in this building, since I have been here.

An examination by an inspector yesterday disclosed the fact that in the bowls in which are kept the moistening brushes for letter-press books—eight were found in the building—in all but one were found the larvæ of mosquitoes.

There was only half a gill of water in each bowl, and only a narrow slit for access to it. I am having the screens all carefully examined, and an inspector will critically watch and examine everything in the building that could furnish a harbor for mosquitoes. All the screen doors on the balconies will have locks placed on them and the key for each placed in the hands of a designated individual, who will be held responsible to see that the doors are always shut.

The trouble over the Jamaicans working in Panama under Mr. C. E. Davis, which occurred three or four days ago, originated in a scold and complaint about food, for, as you know, these men were hired, were contracted for, to be paid and fed by the Panama Railroad. I called upon Mr. Prescott for any information he could give me concerning the status of the affair with regard to these men and the feeding contract, and he says that the feeding was done by the same contractor who had been for some time past doing this same kind of work for other gangs of men working for the railroad; that the price paid for board was 70 cents (silver) per day per man.

Mr. Claude Mallet (British consul), who was complained to in regard to the treatment of these Jamaicans, told me that he went to the barracks and examined the food which he saw served, and he was quite satisfied that what was being given to the men was entirely suitable and abundant in quantity; but since then he has written to me officially, saying that complaints have since been made which indicate that the food served is not what it should be.

I have given Captain Shanton directions to have all meals set out for these men examined daily—morning, noon, and night—and a record kept of what was served, what complaint may have been heard by the inspector, and what basis, if any, there was. In this way I expect to be able to collect some data on the subject. I realize that, strictly speaking, it is none of my business, but as I feel anxious that the work shall be pushed along without any hindrance or delay, and to have possible causes for complaint removed, and as the situation respecting the feeding of these laborers is very serious, and as the chief of police, under my orders, is available to make this investigation, it seems to me desirable to collect the data; and this I am having done.

The attack upon the laborers by the Panama police resulted from an appeal, or a request, made to the Panama police by Mr. Barril, who saw that there was likely to be trouble, the men having refused to go to work because it was claimed that they were insufficiently or unsuitably fed. Mr. Barril asked the police to compel them to go to work, and it was complying with this very improper request that brought about the first clash. I learn that the first blow struck was probably by a Jamaican throwing a piece of broken stone at a policeman, then there was a general sort of a melee and three policemen were injured, the policemen using their guns and bayonets as one would use a club. Several of the injured Jamaicans at the Chiriqui Barracks went over to the administration building, together with a considerable crowd, and there Captain Shanton saw them, and he went to the place where they were congregated, about 75 to 100 in number, several of them cut and bleeding, and these he lined up separately so as to keep them out of the other crowd, intending to send for an ambulance to take them to the hospital, but just at this time a cordon of about 30 Panama police came down at double time from the police station and halted in front of the canal building.

Captain Shanton called out to them in Spanish to wait, and pointing to these men, said, "These are wounded men." One of these men started to move away from where he was standing, whereupon the lieutenant of the police squad drew his sword and struck a very severe blow at the Jamaican, knocking him down and cutting him badly. Then the whole 30 men, with their guns and bayonets proceeded to rush at these men who were waiting at the canal building, and who certainly had in no way committed any violation of the peace, or done anything that should have subjected them to an assault. The Jamaicans broke and ran in all directions, pursued by the police; but so general was the apparent purpose of the police to assail the negroes that wherever any were found at work in the trenches, whether they were half a mile away from the canal building or at the Chiriqui Barracks, they were set upon and pounded, crushed, and bruised by the police.

Mr. Mallet, the British consul, told me that he knew for certain that beyond the Caledonia railroad station some of the Jamaicans who did not even know that there was a row were set upon by the police. Mr. Mallet is naturally indignant, and has made a representation, as I understand, to the Panama Government. Mr. John Barrett, our minister, who also saw what Captain Shanton saw, made a similar representation to the Panama Government. I was

in my house on that day, by order of the doctor, and not allowed to leave it, so that my knowledge is derived only from hearsay.

I directed Captain Shanton to make a report to me of what he saw, and I sent his report to the Panama Government on the following day, with a statement to the effect that I purposed to forward to the Government in Washington a report of the occurrence, and that if they should deem it fit to inform me as to any action, or proposed action, of the Panama Government, I should be glad to forward the same to Washington; but I had no reply from the minister for foreign affairs, and I have not been able to ascertain to-day from Mr. Barrett whether he has received any response from the Panama Government.

The original fault was due to Mr. Barril's request of the police of Panama to drive these Jamaicans to work. I suppose that some of our foremen are free and unlicensed in the use of language toward these Jamaicans, just as I have seen foremen in the United States use with respect to negroes, to Italians, and to Chinese, including all Latin-Americans, Filipinos, Malays, and Sandwich Islanders—in fact, everybody with a dark skin. According to the ideas of some of our tougher class of Americans, among whom I fear are a good many of our foremen and overseers on the Isthmus, all such people are designated as "niggers." They thus refer to them, usually with prefixes of oaths and obscenity. These words are let drop in the presence of men who are not accustomed to it, and they naturally resent it, and as a result a great deal of bickering and hard feeling grows up between the Jamaica laborers and the American foremen.

I have done all I could in every way by the exercise of moral suasion and by prosecution in the case of those who violate the law, but it is very little that one can accomplish in the face of a set determination of the low-class Americans to generally illtreat these negroes. I think that part of this trouble has grown out of that state of affairs, and I think it is likely to continue until we have a class of men here who will be more careful in the use of language, and who will treat any man who behaves himself as a man.

In talking about this plan of feeding laborers by contract Mr. Mallet remarked that in his experience among West Indian negroes it was a very bad plan indeed—that is, to make a contract for feeding these men—because, he says, it is one unending source of complaint. One man does not like rice, another does not like beans, another does not like plantains, and another does not like potatoes, and they all scold and find fault, and grow sulky over it, and make all sorts of trouble. He says that in his judgment it is far better not to attempt to feed these people. I reminded him of the conditions that exist here, stating that it was absolutely necessary that we should feed these men where we bring them to the Isthmus the way we do and where they have no permanent homes. He said that he, of course, realized that special conditions might make it necessary, but he says that it is better in the long run to pay them their wages and let them feed themselves.

I inclose herewith, from the Star and Herald of this morning (May 3), a clipping which gives a fair notion, I think, of what is in the minds of the Panama people on this general subject about which I have been writing to you. I inclose also some letters from a couple of Jamaicans.

I am writing this long letter to you instead of to Mr. Shonts for the reason that you personally know the condition of affairs here, while Mr. Shonts does not. But I feel sure that you will bring to the attention of the chairman everything I write to you that will be of interest to him.

G. W. D.

(Inclosures not preserved with retained copy of this letter.—G. W. D.)

EXHIBIT 19.

[Personal.]

PANAMA, June 8, 1905.

HON. WILLIAM H. TAFT,
Secretary of War, Washington, D. C.

MY DEAR MR. SECRETARY: Upon my arrival on the Isthmus it is needless to say that the entire organization was found in a state of more or less demoralization. At the same time the spirit of disloyalty mentioned by Mr. Barrett did not exist. The feeling was more one of depression and discouragement.

This was due to, first, the general climatic influences on the men; second, the more or less panicky feeling generated by the deaths of Messrs. Johnson and West.

The dissatisfaction among the men was of two general kinds, one class being those who openly expressed dissatisfaction, or who might be called the "kickers," who had only recently come to the Isthmus, and who were, in reality, unfit men who had been employed in response to general requisitions, having been engaged through the clerks in the Washington office, a large number of them having actually been employed by the lady stenographers, who were unfamiliar with expert labor.

It is a fundamental principle that men who are unemployed and apply for positions here are undesirable. The kind of men needed are those already engaged in the satisfactory performance of their duties, to whom it is necessary to pay an increased rate of salary in order to induce them to give up a position in which they are satisfactorily employed to come to the Isthmus and put up with the inconveniences that are necessarily attached to construction work in a foreign tropical country.

The dissatisfaction among the men, however, that gave the most anxiety was of the silent, unexpressed nature, which existed among our loyal and better class of employees. In time this would have resulted in their gradually leaving the Isthmus, as they were offered positions in the States, or in their taking their leaves of absence in the normal way and not returning, provided they could find any other means of earning a living. Above all was the disadvantage to the work where men were compelled to remain here in order to earn a living, with a silent feeling of discouragement.

I think it can be said, without egotism, that my return to the Isthmus, particularly being accompanied by Mrs. Wallace, had an immediate and material effect in restoring confidence. This, however, was based on the evident hope that under the changed order of things a new and broader policy would be adopted and immediate steps taken to more liberally compensate the men and properly organize the work, which was impossible under the old conditions.

This I have been continuously employed upon since my return. The chief engineer has made every effort to perfect a new and permanent organization since his return, as fast as the details could be worked out, and the outlook is becoming more and more favorable.

Material is now coming in and the men are becoming better housed. Provision for amusement and entertainment will be taken up later.

Governor Magoon was enthusiastically received by the Panamanians, as well as by the American employees and people inhabiting the Zone.

His friendly and genial disposition, his broad views, and the hard, sterling common sense which he exercises in the consideration of all questions submitted to him, coupled with the hearty cooperation which he has extended to me at all times and in all things, have been a great encouragement.

The greatest handicap at this time is the lack of several high-class loyal assistants. All the men here are loyal and perfectly competent in the handling of their several divisions or bureaus as the work now exists, but in view of the large amount of organization and expansive work ahead, several high-salaried men are needed who should be personally selected by the chief engineer.

Since my original appointment as chief engineer this matter has been given constant thought and a great many men considered for the more important positions that have not yet been filled, particularly that of assistant chief engineer.

Refusal after refusal has been met with, although as high as \$15,000 per annum has been offered in a tentative way. This position is a most difficult one to fill—probably much more so than it would be to select a successor to the chief engineer, as his assistant must necessarily have ability fully equal to that of his superior and be perfectly competent to step into his place should ill health, inclination, or any other reason cause the chief engineer to leave the service.

It is absolutely necessary that a man of this character should be secured without further delay, and that he should be personally selected by and be a man in whom the chief engineer has perfect confidence.

It will also be necessary to employ other high-class men in the immediate future. It was the intention of the chief engineer to secure these men on his recent return to the States, after personal conferences and full investigation of their records, but the important matters connected with the reorganization of the Commission and the Panama Railroad Company prevented; and on account of the demoralization which had occurred during my absence, due to the deaths

of Messrs. Johnson and West and the illness of General Davis and the general their records, but the important matters connected with the reorganization of of the Commission, it appeared highly desirable for me to return to Panama at once and allow the question of personnel to be taken up at a later date.

Prior to being called to the States I had addressed a letter to Admiral Walker, a copy of which is hereto attached, applying for leave of absence, during which period I expected to have an opportunity to canvass and interview the men required for the higher positions. Shortly after this letter was written a cable was received from the Secretary of War outlining the reorganization of the Commission, and the letter was never replied to.

Since my return I have been most vigorously employed in arranging for the reorganization of the work and in stiffening up the weak points.

In the meantime cables and letters have been received from the States in regard to matters which vitally concern my personal interests, which could not be brought to a consummation before leaving the States.

There are also several matters which it is desirable to discuss with you before your departure for the Philippines, which I do not think it wise to hold until your return, and which can not satisfactorily be handled either by cable or by letter.

While they might be considered largely of a personal nature, any action taken for my personal interest would affect, to a greater or less extent, the work here.

I therefore addressed a cable to you, as follows:

"SECRETARY OF WAR, Washington:

"Important complicated business matters which can not be arranged by correspondence, and which may affect my relations as chief engineer of Commission, necessitate immediate return to the United States to confer with you and others. An order from you to return for official consultation will prevent apprehension on the part of employees. Suggest Shonts remain until my arrival. Please answer.

"WALLACE."

and received the following reply:

"WALLACE, Panama:

"Secretary of War and Shonts, in accordance with your request and without knowledge of circumstances that justify, approve your return for consultation with them at Washington.

"EDWARDS."

The suggested order to return to the States for a conference with you prior to your leaving for the Philippines was to cause a better effect on the men here than if they understood I had returned of my own volition, as it would be natural to suppose that you might desire a personal conference with me in relation to the work here before your departure for a considerable absence from the country.

My intention was to make a hurried trip to the States, in order to return here in time to be present at the meeting of the Commission on the 2d of July.

However, it is possible to make such progress in my reorganization work that I believe I can finish everything up and sail for the States on the steamer *Finance*, which will leave here Monday, June 12; and as I have been continuously at work for the Commission without any vacation (having taken practically none when in the States), I respectfully request that I be granted at least six weeks' leave of absence, dating from the completion of the conference with yourself and the chairman of the Commission, or after I have finished such business as I may be called upon to attend to in Washington or New York for the Commission or the Panama Railroad.

In this connection I desire to say that one of the basic conditions made with Admiral Walker in May, 1904, when I considered the proposition to come to Panama, was that I should have at least two months' leave of absence during each year.

The Admiral was disinclined to accept this proposition, but finally stated to me that I could have six weeks in connection with some of my business trips to Washington, and that the six weeks would date from my leaving Washington until again reporting there for duty.

I know of no time during the next year when the work will be in better condition to permit of my absence. It is thoroughly organized, everything possible

that can be foreseen provided for, and a feeling of loyalty and enthusiasm now permeates the entire personnel.

On landing in New York, on the 19th or 20th of June, I would like to spend one or two days there on matters connected with the Panama Railroad before I proceed to Washington, when I hope you will be able to give me a personal interview.

Hoping that this will meet with your approval, I remain,

Very respectfully,

JOHN F. WALLACE, *Chief Engineer.*

EXHIBIT 20.

ISTHMIAN CANAL AFFAIRS, OFFICE OF ADMINISTRATION.

Washington, D. C., April 13, 1906.

SIR: I have the honor to attach hereto a statement showing the number of employees on the Isthmus during the months from January to October, 1905, and information concerning separations from the service during a part of this period, requested in your memorandum of the 11th instant.

Respectfully,

JOSEPH BUCKLIN BISHOP, *Secretary.*

The SECRETARY OF WAR.

Statement of number of employees of the Isthmian Canal Commission located on the Isthmus of Panama during the months from January, 1905, to October, 1905.

Month.	Number of gold employees, Isthmus.	Number of silver employees, Isthmus.	Month.	Number of gold employees, Isthmus.	Number of silver employees, Isthmus.
January	812	4,628	June	1,641	8,117
February	1,174	5,594	July	2,402	9,855
March	1,244	7,402	August	2,695	9,985
April	1,537	7,890	September	2,631	12,480
May	1,753	7,806	October	2,772	14,301

Statement of Panama Railroad Company as to passengers carried on its steamers from Colon to New York from June 1 to September 30, 1905.

Month.	Cabin.		Steerage.
	Carried at \$20 rate.	Total carried.	
June	120	151	72
July	104	135	56
August	209	241	66
September	138	181	80
Total	571	708	274

Of the 274 steerage passengers returned during this period possibly one-half were returning canal employees who were not given the \$20 rate.

The above number (571) will also include employees returning to the United States on leave of absence.

Statement of the total separations from the Isthmian service of gold employees, from April 1 to September 30, inclusive, as shown by the records of the Washington office.

April	109
May	150
June	171
July	110
August	162
September	139
Total	841

Respectfully submitted.

JOSEPH BUCKLIN BISHOP, *Secretary.*

EXHIBIT 21.

[New York Tribune, April 28, 1905.]

Panama, April 27.—All the contract Jamaicans working at the aqueduct struck to-day, alleging insufficient food as the cause. Six policemen, who were summoned by Engineer Barrill to compel the men to work, were badly beaten, and Barrill himself was stoned. Armed policemen reestablished order and prevented a riot.

[New York Tribune, May 5, 1905.]

Panama, May 4.—The steamer leaving Colon for New York to-day had on board a large number of canal employees, over 50 of them having resigned.

[New York Herald, May 6, 1905.]

Colon, Friday.—The steamship *Segurance* sailed from this port yesterday for New York with a large number of passengers, over 30 late employees of the Isthmian Canal Commission going home in consequence of discontent with conditions on the Isthmus. The rainy season has set in, hindering the work of bush cutters back of the town, which will remain swampy till January unless filled up before that time.

[New York Herald, May 7, 1905.]

Washington.—Mr. Shonts, chairman, having returned to Washington, a meeting of the executive committee of the Isthmian Canal Commission was held to-day. Open expressions of discontent and grumbling on the part of the employees in the Canal Zone and frequent resignations have impressed the committee with the belief that something must be done to make the service more attractive to young Americans.

The most important decision to-day was that there should be a rearrangement of salaries, the particular feature of which will be liberal allowances in the lower grades. Provision will be made for leaves of absence on a more generous scale than in the past, and the social life of the American colony will be developed. Sports will be encouraged, grounds provided for baseball, tennis, and open-air games; the organization of clubs will be provided for and accommodations for them supplied by the Commission, and, altogether, it is hoped to check the growing feeling of discontent.

[New York Tribune, May 7, 1905.]

Washington, May 6.—In an article headed "Better canal service—Commission plans to make Isthmus work more attractive," the following appears:

"The Panama Canal Commission has determined to do everything in its power to make service in the Canal Zone attractive, and in that way hopes to dissipate the general dissatisfaction prevalent among Federal employees in Panama. Ball grounds, tennis courts, bowling alleys, and other forms of innocent amusement will probably be provided. The policy of promoting those who,

by efficient service in the Zone, deserve recognition, will be strictly adhered to wherever possible, in contrast to the policy of calling on the Civil Service Commission in Washington for clerks who have qualified for the higher classes of service or securing the transfer of such clerks from the Executive Departments in Washington.

"The adoption of this policy grows out of an extended report recently made by General Davis, in which he outlines the general dissatisfaction among employees in the Zone, the unfortunate circumstances in which many of them were placed, and the general misunderstanding of conditions under which many of them accepted employment.

"From this report it appears that a considerable number of employees came to Panama with the understanding that they would receive generous salaries and rapid promotion, enjoy exceptionally comfortable quarters, and labor under particularly rosy conditions. The conditions are generally the reverse of what they say they were led to expect. General Davis dwells at considerable length upon the impossibility of housing the employees, the utter impracticability of men bringing their wives and families to the Zone under existing conditions, the impossibility of their realizing their expectations with regard to salaries and promotions, and the numerous temptations which beset them, chiefly in the way of gambling dens, lotteries, etc."

[New York Tribune, May 10, 1906.]

Colon, May 9.—Fifty Inagua Island (Bahamas) contract laborers, who were brought here on the American steamer *Advance* last Friday and were detailed to work on the Colon reservoir, 2 miles back of Monkey Hill station, obstinately refuse to work, saying that they have to work in mud swamps and that their huts are not fit to live in and that their food is unsatisfactory. The islanders marched in a body yesterday to the British consulate and laid complaints before the vice-consul, who is looking into their alleged grievances. The canal authorities are finding it difficult to obtain labor for that locality.

[New York Tribune, May 12, 1906.]

It appears that the yellow-fever scare on the Isthmus of Panama has not abated and that conditions are serious there. This appeared yesterday in the return by the Panama Line steamship *Seguranca* of 30 young men who went down to work for the Canal Commission. All are coming home because they were alarmed over the fever scare. Said one of the men:

"There is yellow fever there, and it is likely to spread. Of course I do not say that anything which could be done is neglected by the officials and that sanitation is not being looked after. At the same time we are of the opinion that it will be a good long time before conditions down there, in regard to health, will be brought up to the same standard as they were when the Americans turned over Cuba."

[New York Times, May 15, 1906.]

According to the opinion expressed yesterday by the commission appointed by the Japanese Government to investigate labor conditions in Panama, the germs of the Canal Zone were likened to the death-dealing qualities of the Russian bullets.

* * * * *

"The consul will make a report of our investigation to the office of foreign affairs at Tokyo, but just what recommendations the report will name I can not say just at this time," said Mr. Richardson (secretary of the consulate at San Francisco), "but my own private opinion would be that it would not be wise to send a big number of Japanese into the Isthmus at this time, and I think it would be equally unwise for the Panama Commission to accept them, inasmuch as it seems to me, with the prevailing conditions in the Canal Zone, the men would become very much discontented. The sanitary conditions are still very bad.

* * * * *

"There were several cases of yellow fever while we were there, and the mosquitos are woefully obnoxious. The labor conditions appear bad, the principal laborer being the native negro, and it would seem folly at this time to import labor that was not accustomed to climatic conditions under the present bad sanitation arrangements."

[New York Times, May 15, 1905.]

Pittsburg, May 14.—"Tell the boys to stay at home if they get only a dollar a day," is the advice of a McKeesport boy now working with the construction gang on the Panama Canal.

Chas. L. Carroll, son of Mrs. Sadie Carroll, of 604 Ridge avenue, McKeesport, was one of the first to go to the Isthmus to work. In a letter to his mother received yesterday he says he is thoroughly sick of the country and everything connected with the canal, and will be home in a month.

"Every person is afflicted with running sores all over the body," the letter goes on. "We are compelled to sleep in an old shed, six in a room, on cots. Rain water is drunk more than the river water, because it is the better. The meals provided would sicken a dog."

[New York Herald, May 21, 1905.]

PANAMA, May 15, 1905.

EDITOR OF THE HERALD: I am a reader of the New York Herald, and as such would like to do justice to its readers in the States. I have reference to an article published in the Herald in which Mr. F. G. Carpenter gives an account of attractive homes for canal workers.

In the first place, the bachelors' quarters at Culebra can not be of any use except for those living or working in that vicinity. These are very few, as one white man has charge of perhaps 50 negroes. As there are only about 300 men all told employed at Culebra, it is plain to be seen that only a very few can take advantage of these quarters.

At Ancon there is a large building which they call "workingmen's quarters." Half the men who have been assigned to quarters there have left and rented quarters elsewhere at their own expense.

Mr. Carpenter further states that the fruit is delicious and very cheap. He had the good fortune of getting a pineapple for 7 cents. The pineapples are mostly shipped here from the coast, and sell anywhere from 30 to 50 cents in gold, a much higher price and an inferior fruit to that which is sold in the States.

Mr. Carpenter finally concludes with his statement that servants can be had for \$5 per month for doing a half day's work each day. Such is not the case. Servants' wages are high and are equal sometimes to those of mechanics employed on the canal. If Mr. Carpenter should happen to be in New York when I come home and wishes an interview with one who knows and would say more if he dared to speak, why, he will be accommodated with proof which will convince him that he has been badly fooled in regard to Panama and its attractiveness.

X. Y. Z.

[New York Herald, May 21, 1905.]

[Extract from an article entitled "Panama problems, labor, and fever," being in part an interview with United States Minister John Barrett upon his return from Panama to New York.]

"The problem of the hour at Panama," he said, "is sanitation or improvement of health conditions. The second problem is that of labor, while difficulties of administration and construction come third, except as they include the first two.

"Despite the efforts of the present sanitary staff under the skillful guidance of Colonel Gorgas, yellow fever seems no nearer being stamped out than it was about a year ago. We have had more cases of the dread disease during the last thirty days than during any other corresponding period for ten months."

[Washington Times, May 29, 1905.]

New York, May 29.—Eight former employees of the Panama Canal Commission, who arrived here to-day on the steamer *Orizaba* from Colon, said they resigned their positions on the Isthmus because of the high cost of living and the health conditions there. They said that several other employees, who had resigned for similar reasons, would come to the United States on later steamers.

[Cincinnati Enquirer, June 2, 1905.]

In a letter to John J. Wenner, clerk of the county board of control, a friend, a former Cincinnati, who has a position on the Government work in the Canal Zone, Panama, sends some interesting facts regarding the country and what the United States has to contend with there. Speaking of the construction of the

canal, he says that at the rate that the work is now progressing it may be open by 1950. The reason for this, he says, is that there are too many "bosses, with high-sounding titles."

"There are no walking bosses," he says. "They are all supervisors and superintendents of dumps, and such high falutin' titles." He declares that the quarters assigned to the men are poor, and not what was promised, while the food is miserable, and board costs \$25 per month.

"The great trouble is in getting men to stay," he writes, "and those who have been working steadily for two months are called 'old employees.' Pay day will arrive the early part of next month," he continues, "and then look out for an exodus to the States."

He has been located at Culebra, but expected to move to Empire. At both of these places, he states, the health of the people is good, and Colon is also comparatively healthy, but Panama, he declares, is a "cesspool," and the yellow fever there claims victims on an average of one every ten days.

[New York Globe, June 9, 1905.]

The *Seguranca* brought nearly 150 passengers, many of whom had resigned their positions on the Panama Canal because of the conditions on the Isthmus.

[New York Sun, June 13, 1905.]

The steamship *Advance*, in yesterday from Colon, had many passengers aboard who said that they had left the Isthmus because of yellow fever there. George A. Heath, of Massachusetts, a general foreman of construction of the Panama Canal, was taken ill a few days after the *Advance* sailed from Colon. His temperature was abnormally high when he was examined yesterday by Health Officer Doty, and he was sent to Hoffman Island for observation. Up to last night he had shown no symptoms of yellow fever. All the other passengers were in good condition, and after a thorough examination they were permitted to go with the ship to her pier.

[New York Herald, June 25, 1905.]

Colon, June 24.—Since June 17 there have been 5 new cases of yellow fever in the Colon Hospital and 1 death, and 4 cases are now under treatment.

The *Seguranca* sailed for New York yesterday evening, crowded with passengers, including a large number of canal employees who are leaving the Isthmus on leave of absence, but who are not expected to return.

[New York Tribune, July 1, 1905.]

More than one hundred passengers arrived here Friday morning from Panama on the steamship *Seguranca*. Many of them are discontented Americans who have been working for the Government in the Canal Zone. They are coming north either on account of climatic conditions or because of dissatisfaction with conditions on the Isthmus.

As a result of an examination by the quarantine officers a man and a boy were removed to Hoffman Island.

Arthur Paquette, a passenger, speaking of the sanitary conditions on the Isthmus, said that the first week he was down there there were 43 cases taken to the hospital at Ancon.

C. R. Littlejohn, of Wilston, Ohio, who was in Panama three months, said that he did not sleep in a bed the whole time. He criticised severely the Government's arrangement with an Isthmian hotel.

George Land told of conditions at Culebra cut. He said there was plenty of incompetence displayed, and denounced the system of blacklisting, which he stated was employed there.

Others told stories of the sanitary conditions and of the spread of the fever.

The *Seguranca* brought up the body of Samuel G. Davis, a detective sergeant, who went to Panama last March to organize the local police. Mrs. Davis was a passenger on the vessel.

[New York Herald, June 29, 1905.]

Mr. Wallace's resignation and yellow fever are factors in causing uneasiness among canal employees. In the wake of the abrupt resignation of John F. Wallace, chief engineer of the Panama Canal, which, there appears to be no doubt

has been accepted, the Government finds itself confronted with the problem of checking a growing demoralization in the great army of workmen employed in building the canal. Reports have come to Washington that when Mr. Wallace sailed from Colon it was felt he would not come back, and because there is no firm engineering hand to take the helm the work is more demoralized than ever.

To check this uneasiness, which is accentuated by the yellow fever, is the problem the Canal Commission is now facing

* * * * *

Nearly every employee who goes to the Isthmus comes home and tells a dire tale of "yellow jack" lurking behind every corner, of poor food, of inadequate accommodations, of inertia, and of confusion in Government methods. Officials here stoutly maintain that conditions are by no means so bad as painted, but the stories of those who have been there have created a sentiment which renders it almost impossible for the Administration to get artisans to go to Panama, even if they are offered higher wages than they can earn in the United States.

Mr. Wallace's departure brought things to a standstill.

EXHIBIT 22.

Mr. John F. Wallace was on May 5, 1904, appointed chief engineer of the Isthmian canal, under action of the Commission as follows:

"The Commission reconvened and the chairman reported that he had had a conference with Mr. Wallace, who had declared himself ready to accept the position of chief engineer at a salary of \$25,000 per year and a residence on the Isthmus, and had stated that he would be prepared to enter upon the duties of chief engineer on June 1."

Reorganization of the then Isthmian Canal Commission being under consideration, Mr. Wallace wrote the Secretary of War on December 20, 1904, as follows:

"If you will kindly pardon me for doing so, I would like to make a personal suggestion that if the President and yourself should decide at any time to reduce the Commission to three members, resident on the Isthmus, the governor of the Zone and the chief engineer should be members of this Commission ex officio.

"An organization of this kind, with the chairman of the Commission resident in Washington to look after general departmental matters, would no doubt work satisfactorily and be much less cumbersome than the present one."

And again on March 15, 1905, he wrote the Secretary:

"I hope you will not consider me presumptive if I respectfully ask that I be granted a personal interview before any radical change is decided upon in the governmental organization which would affect me unfavorably.

"I am not requesting additional emoluments of any nature whatever, but simply that no condition of affairs be created which will unnecessarily interfere with my efficiency here."

On March 24, 1905, the Secretary submitted to Mr. Wallace in detail, by cable, the plan of reorganization which the President proposed to make (substantially as embodied in the subsequent Executive order of April 1), and on the following day Mr. Wallace cabled the Secretary as follows: "Plan excellent. Satisfactory. Gracias [thanks]."

Thereafter the President issued his Executive order of April 1, creating a new Commission and defining their duties; among other things, that of the chief engineer, as follows:

"The head of the third department shall be the chief engineer. He shall have full charge on the Isthmus:

"1. Of all the actual work of construction carried on by the Commission on the Isthmus.

"2. The custody of all of the supplies and plant of the Commission upon the Isthmus other than all supplies needed for sanitary purposes.

"3. The practical operation of the railroad on the Isthmus with the special view to its utilization in canal construction work.

"4. He shall reside upon the Isthmus, devote his entire time to the service, except when granted leave of absence by the Secretary of War."

Mr. Wallace expressed his unequivocal approval of the distribution and powers as above defined by the Executive order, especially those relating to the office of the chief engineer; and during his subsequent stay of six weeks in

the United States daily participated with his associates in carrying out the same. To the President, Secretary of War, members of the Commission, and its counsel he frequently expressed his unqualified approval and acceptance of the distribution of duties and powers as in the order embodied, and particularly those relating to himself, which required the performance by him of the duties of constructive engineer upon the Isthmus.

Mr. Wallace sailed for the Isthmus on May 17, accompanied by his family, and as late as May 26 wrote Mr. Cromwell from the Isthmus as follows:

"In looking back over the events of the last few months, I become more and more impressed with the wisdom underlying the action of the President and the Secretary of War * * * and the manner in which matters have been guided over the troubled waters of the sea of complication which has surrounded the situation."

He reached the Isthmus May 24, but within twelve days thereafter cabled the Secretary of War as follows:

PANAMA, June 5, 1905.

SECRETARY OF WAR, Washington:

Important complicated business matters which can not be arranged by correspondence, and which may affect my relations as chief engineer of Commission, necessitate immediate return to the United States to confer with you and others. An order from you to return for official consultation will prevent apprehension on the part of employees. Suggest Shonts remain until my arrival. Please answer.

WALLACE.

To this reply was sent the following day, as follows:

"Secretary of War and Shonts, in accordance with your request and without knowledge of circumstances that justify, approve your return for consultation with them at Washington."

By letter of June 4, addressed to the Secretary of War, Mr. Wallace states:

"Certain complications are arising in my personal affairs which may render it necessary for me to go to the States on receipt of a cablegram at any time. Will you kindly cable me permission to do so? It is needless for me to say that I will not do this unless I consider it absolutely necessary."

On June 8, a few days before he sailed for New York, Mr. Wallace wrote the Secretary of War a letter, in which he referred to his intended visit to the United States, but gave no explanation of his personal plans.

Mr. Wallace arrived at New York the evening of the 22d instant, and the Secretary made an appointment for a conference on Sunday morning, the 25th instant, at the Manhattan Hotel, in New York City, the Secretary being then en route to New Haven and Boston.

The conference took place at the Manhattan Hotel as arranged. There were present the Secretary of War, Mr. Wallace, and Mr. Cromwell, who for some time has been charged by the President and Secretary with general advisory duties in all Panama Canal affairs.

Mr. Wallace stated that part of the interview would be personal to himself and part would concern the general canal work on the Isthmus. The Secretary referred to the foregoing cables, and acquiesced in Mr. Wallace's suggestion that he first speak of the personal matters.

Mr. Wallace then said that a few days before he sent the above cable to the Secretary he had received a cable from prominent business men in New York, asking if he would consider an offer to accept an important position in New York, and that he had cabled in reply that it was "simply a question of terms and conditions," and that he had requested particulars; that the particulars came, and it proved to be a definite offer of a position as president of a large holding company, controlling several other corporations, with certain stock benefits and other advantages to himself, which, with the salary, made it equivalent to \$50,000 per year; that he did not at once accept the offer, but delayed it a few days in order to cable the Secretary of War, during which the parties increased their proposal between ten and fifteen thousand dollars a year, making it equivalent to \$60,000 or \$65,000.

He stated that the position was an especially attractive one, and such as he had only hoped to obtain after the completion of the canal, and thus only after years of further service on the Isthmus; that the duties of the new position were especially agreeable and afforded opportunities to make money through investments, etc.; further, that the position was such a good one that he did

not consider that he could decline it; that the life on the Isthmus was lonely and accompanied with risk to himself and wife, and was another reason for accepting a better offer, but that his new duties would not require all of his attention for the next two months, and that the parties had agreed that he could close up his canal work in the meantime, always provided that it did not take him from New York to the Isthmus. He referred to the President's order appointing the original Commission, and in which the President had stated that the Commissioners would hold office subject to the due fulfillment of their duties, and he stated that this made the office subject to termination by the President, and that consequently he (Mr. Wallace) considered that the holder of the office had an equal right to retire from it at his option at any time.

Concluding he stated that while he was thus severing his connection with the canal work he was willing to make up his annual report, and he would, if desired by the Government, continue to serve as a Commissioner, but not as chief engineer in charge of the construction work on the Isthmus.

Mr. Wallace said that this was all he had to say in regard to his personal relation to the work, and that he would then proceed to discuss generally the conditions on the Isthmus, if the Secretary desired. Secretary Taft said he wished Mr. Wallace would continue his general statement.

Mr. Wallace then discussed conditions on the Isthmus and the work, impersonally, for half an hour. At the conclusion of Mr. Wallace's general statement the Secretary of War said, in substance, as follows:

"Mr. Wallace, I am inexpressibly disappointed, not only because you have taken this step, but because you seem so utterly insensible of the significance of your conduct. You come with the bald announcement that you quit your task at a critical moment, on the eve of important work, and in the midst of reorganization plans under which you accepted your position, with your department unperfected in organization, and when you know, too, that my public duties call me to the Philippines for several months. I must be allowed to remind you that when you were employed by the Commission a little over a year ago you were only receiving \$15,000 per annum under your former position, and that your salary was fixed at the sum demanded by yourself, \$25,000. That was for constant service on the Isthmus, where the construction work was to be performed and your services were required. You knew the risks to yourself and to your family, if they went with you, in the work you assumed an obligation to do. If you had not desired the position, you need not have sought nor accepted it, but I understand that quite the contrary was the case. I can refer more positively to recent events within my own knowledge. When the President found it necessary to make a reorganization of the former Commission, you were consulted in the frankest manner about every feature of the reorganization, and were encouraged freely to express your opinions. Indeed, your voluntary suggestions from the Isthmus embraced the proposal that you yourself be made a member of the Commission and chief engineer on the Isthmus.

The substance of the plan of reorganization, as afterwards embodied in the President's executive order of April 1, was cabled to you by me and you cabled me your fullest approval of it and your thanks, for it included the appointment of yourself as a Commissioner, as you had solicited, and a member of the executive committee. The new plan of organization was warmly accepted and indorsed by you when you arrived in Washington, and you expressed your hearty approval of it in the most unequivocal manner not only to the President and myself, but to members of the Commission and its counsel, and just before sailing for the Isthmus you called upon us and voluntarily thanked me in the warmest terms for what had been done in the reorganization of the canal work and in the positions which had been given you. You cooperated for all these weeks in the work of reorganization and accepted the position assigned you under the President's order of April 1. The President and myself relied upon this fact in making up the plans, and the other members were selected with that in view. Now, within twelve days after your arrival upon the Isthmus you send me a cable which, read in the light of what you say to-day, signifies your practical acceptance of an offer of another position inconsistent with the performance of your duties on the Isthmus. I am astonished that you should be so disregardful of the splendid opportunities of the position, which would have made you famous the world over by the honorable performance of your duties of chief engineer.

For mere lucre you change your position over night without thought of the embarrassing position in which you place your Government by this action,

when the engineering forces on the Isthmus are left without a real head and your department is not perfected in organization; when the advisory board of engineers is to assemble under call of the President within two months, and when I am departing for the Philippines on public duty. All this you knew as well as I know it, but it has not had the least influence upon your action—you have thought of yourself and yourself alone. I consider that by every principle of honor and duty you were bound to treat the subject differently. You have permitted the President and all of us to proceed in full confidence that you would perform the functions of chief engineer, and now, in an hour, you drop your great duties and throw them back upon us as if it were a matter of no consequence, and all this for personal advantage solely.

Mr. Wallace, I do not agree with your idea of your rights nor with your idea as to your duties. I do not agree that the President's original order giving him the right to discharge an unfaithful Commissioner gave you the right to abandon your duties at a critical moment; but independent of that original order you accepted the duties of chief engineer on the Isthmus under the recent order of April 1, which was made in cooperation with you and to suit your views. More than this, your duty in the premises is not measured by your mere legal contractual rights. It should be measured by the high obligation of a public officer with a sacred allegiance to the Government it should be his honor and his pleasure to serve. You were, therefore, in honor bound by all that has preceded to continue to perform your duties upon the Isthmus until such time—a year at least—as would have afforded us reasonable opportunity to select a competent successor and prepare him for the great duties of that office.

You make not the least complaint against your associates, superior or inferior. I know of no possible ground for any. You are influenced solely by your personal advantage.

Great fame attached to your office, but also equal responsibility, and now you desert them in an hour. Even from a standpoint of policy, you are making a profound mistake. If you could withdraw from your new arrangements, which I do not suggest, I could have no confidence, since I know now your conception of duty, that you would not in the future repeat the same act at a moment even more critical, when the consequences might be even more embarrassing and injurious to the Government.

"Under these circumstances, Mr. Wallace, and with great personal pain and disappointment, I am bound to say that I consider the public interest requires that you tender your resignation at this moment, and turn over the records of your office to the chairman of the Commission."

In reply, Mr. Wallace stated that he was deeply disturbed at the view of the subject taken by the Secretary; that he had considered that he had a right to retire when he chose, but that, as he had said, he was desirous of talking it all over and making some arrangement whereby the Government could use his services in some capacity.

The Secretary answered in substance: "Mr. Wallace, further talk is useless. It would be to dicker. I can not dicker on such a grave subject. I have assumed that you had given this subject the greatest consideration, and you have approached it deliberately and stated to me your action in set and definite terms. You have unmistakably announced that you propose to accept a position so attractive that you could not possibly afford to decline it, and that you would not henceforth perform any duties for the Government as inconsistent with serving your new masters, who require your constant presence in New York, and, therefore, that you could not and would not go back to Panama as chief engineer."

Mr. Wallace again stated that he deeply regretted that the Secretary's point of view was different from his own, and said that he would send his resignations as soon as he got back to his hotel, and would address them to the President, through the Secretary. He added, "Mr. Secretary, while there is a difference between us as to the point of view we take concerning my duty, I consider that there can be no question that I have performed my full duty up to this hour."

To this the Secretary replied in effect: "Mr. Wallace, I do not consider that any man can divide such a duty up to any one point where it suits him to stop, and then claim that he has fulfilled his duty by merely performing it up to the point of his own selection. In my view a duty is an entirety, and is not fulfilled unless it is wholly fulfilled."

Agreeably to the said request of the Secretary, Mr. Wallace submitted his resignation, as follows:

NEW YORK, June 26, 1905.

The PRESIDENT,

White House, Washington, D. C.

(Through the Secretary of War.)

SIR: I have the honor to hereby tender my resignation as member of the Isthmian Canal Commission, to take effect at such time as may suit your pleasure and convenience.

Very respectfully,

JOHN F. WALLACE,

Member Isthmian Canal Commission.

Similar resignations as chief engineer and as vice-president, general manager, and director of the Panama Railroad were submitted.

After consideration of the foregoing, and personal conference with the Secretary of War, the President issued the following order:

CAMBRIDGE, MASS., June 28, 1905.

SIR: Your resignation as member and chief engineer of the Isthmian Canal Commission tendered in accordance with the request of Secretary Taft, which request under the circumstances has my entire approval, is hereby accepted to take effect immediately.

Very truly, yours,

THEODORE ROOSEVELT.

Mr. JOHN F. WALLACE,

Isthmian Canal Commission, Washington, D. C.

The successor of Mr. Wallace as chief engineer will be announced within a few days.

STATEMENT OF CONVERSATION BETWEEN SECRETARY OF WAR, MR. CROMWELL, AND MR. WALLACE JUNE 25, 1905, AT HOTEL MANHATTAN.

Referring to the conversation between the Secretary of War, Mr. Cromwell, the general counsel for the Panama Railway Company, and Mr. John F. Wallace, then chief engineer of the Panama Canal, had on Sunday morning, June 25, at the Manhattan Hotel, there was omitted from the account given to the press a detailed statement of what Mr. Wallace said on the more general subjects of the canal work, because Mr. Wallace expressly made the matter hereinafter stated entirely irrelevant to the question of his personal relations to the Commission.

He said, first, that he did not think that Colonel Gorgas was equal to the executive task of subduing the insanitary conditions that existed on the Isthmus and of making that a healthful place, and that he was not the man for the place. He said the trouble with Colonel Gorgas and those who acted with him or sympathized with him was that they thought they had solved a question when they had reached a scientific theory in respect to its existence and remedy; that when they had reached the theory that mosquitoes carried a disease they must do something to subdue the mosquitoes, but the practical work of subduing the mosquitoes they were not equal to.

He said that Major La Garde was a very competent surgeon and had made the hospital a comfortable and useful place, but that under the present régime of Colonel Gorgas they had no treatment for yellow fever whatever; that they put the patients under a mosquito bar and left them to die. He said there was a Doctor Randall connected with the railway company that had treated five or six cases that had occurred over at Colon and had not lost a case; that he had a special method, first opening the bowels with castor oil and saw to it that the various organs were kept open and in action. He said that he himself had had yellow fever and that his wife treated him; that he was also visited by Colonel Gorgas, who advised against taking drugs, and his wife, when his back was turned, administered a dose of castor oil, and that he attributed his escape to his wife's treatment and not to Colonel Gorgas. He said that this was not his own personal point, but that he was making these remarks in a confidential way and at personal request of Judge Magoon, who had requested him to convey it, and both realized that such a report as this could not safely be put in writing. The Secretary reminded him that Colonel Gorgas had a great reputation in Habana, and seemed to justify the confidence in him at Panama, and Mr. Wallace replied, "Oh, he was the fourth man in control at Habana and did not occupy any such important position as he now occupies at Panama."

He then proceeded to make a general report on the status of the work, the organization of his departments, subdivisions of departments, and in question to question described the heads of each, but he also said when he got to the chief part of it—the construction work—that there he had no assistance, that the subordinate departments were organized, but that the construction department was under his own immediate control, and that he had not yet been able to secure assistants. On each of his trips to the United States he had had this question in mind, and made efforts to find them, and had conferred with Mr. Noble respecting Mr. Harrison, but had not been able to reach terms with Mr. Harrison. Two or three others he had considered, but they were not quite up to the mark; that he proposed to go as high as \$15,000 per year salary; that according to his idea of assistants there should be two assistants, each one in turn competent to become acting chief engineer upon occasion, and that by assigning two such men of nearly equal ability there would be an incentive upon the part of each to finally occupy the place of chief engineer in case of death or retirement of that officer or during his absence; that in his experience he found that in the case of one assistant engineer he was always seeking for the place of his superior, and that it led to mistrust and sometimes disloyalty; but by having two men, neither one of whom would know who would succeed in case of vacancy, it promoted ambition and loyalty.

He said that he had engineers in charge of four or five departments, but that he had no engineers in charge of divisions, except Dauchey; that he expected to put engineers immediately under the assistant chiefs in charge of five departments, one at La Boca, one at Cristobal, one at Gamboa, and another at Culebra, and possibly another at some other place, but that none of these had yet been selected, and that there were no divisions operating under him thus divided.

He said that he had been engaged in making measurements and securing data for the purpose of determining in a year at large, including both dry and wet seasons and all other deterrent conditions, what it would cost on the average to excavate and deliver to its proper place a yard of the various kinds of material which they expected to find in the excavation; that this had been his work since he had been on the Isthmus, and that he had nearly completed it for one year; that these figures no one else understood but him; that Dauchey had shown a lack of intelligence as to what the work was being done for on the Isthmus now, although a very good workman, and that he had had to explain to him the last time he was on the Isthmus that this material could be gathered by anyone on the Isthmus who looked at the records there, although there were many things which he himself had found it would be difficult to apply as he would apply. He said that, so far as the work was concerned, there was no reason for his going back to the Isthmus for three or four months, and that the work which was being done could go on until Congress would determine what particular plan would be followed. He said that Mr. Dauchey was able to carry on the physical work until the final plans were determined; that it was simply hard drudgery on finished lines already planned, but that it was important soon to have Congress determine what plan should be adopted, and whether a dam should be put up at Gamboa, because by putting up a dam at Gamboa we could secure power sufficient to run the railroad and to light the works from one side of the Isthmus to the other, and in the construction we could reduce the cost by the use of the water power at Gamboa upward of eight or nine millions of dollars.

He made allusion to the difficulties that he had had in ordering through the purchasing agent at Washington, giving four or five different orders relating to the same piece of work for different things to be used in the work, some of which would come before the others, and often those which came first should be used last, which would delay the whole work. He said the work suffered from the lack of proportionate knowledge which the purchasing agent here did not have, which he might have imparted to him had he direct control over him on the Isthmus. And when Mr. Cronwell said, "Then the same man who gives the specifications on the Isthmus would have to execute it in the United States, but how could he be in both places?" Mr. Wallace replied: "Oh, he would come and go to and fro, as he saw fit, and he would organize the force in Washington so that it would carry it out." The Secretary then said: "I do not see why you could not change and give your directions from the Isthmus by cable as from day to day you found necessity for making slight variations in plans." Mr. Wallace had said that he had been compelled to slightly change his orders from day to day and that this had led, probably, to the belief at Washington that he was vacillating, but in truth it was only because he had found

some reason for changing the order of work on the spot and that this could not be understood by anybody in Washington and could only be understood by the man who was changing his own work, and Mr. Cromwell then again said: "You really mean that one man should be conducting the whole affair and combine the offices?" Mr. Wallace replied: "That would accomplish it, but that I did not mean to be led into making that statement to-day, and I did not intend to bring that up." He said that he was ready to make his annual report to round out his year and to submit his information to the consulting board of engineers for the determination of a plan.

He referred to his vacation, saying that he was entitled to six weeks, and that he decided to take it at this time; that on his previous trips to the United States during the year that he had been very much occupied. The Secretary asked him whether there had been any stipulation in his contract for a vacation such as he said. He said, not a written contract, but that Admiral Walker had acceded to his request for such a vacation. The Secretary said that he did not know it. He said it would have been more businesslike to have put such terms in the contract, that it might be binding on the Government.

At the conclusion of the interview Mr. Wallace attempted to shake hands with the Secretary, but the Secretary avoided it on the first attempt. Nevertheless, as Mr. Wallace was going out he said that he would like to shake hands with the Secretary to show that there was no personal ill will. The Secretary then shook his hand, "good-by," and then said: "Mr. Wallace, I have no personal feeling against you at all. I sincerely wish that you may have every success in the new field that you are about to enter. I do not wish my position in this matter vindicated by any disastrous result to you, and I wish you well, but I am exceedingly sorry that you can not see what a dreadful, dreadful mistake you are making. It pains me more than I can tell." Then Mr. Wallace went to Mr. Cromwell and shook hands with that gentleman, who also said to Mr. Wallace, "I, too, am very sorry of this result."

The Secretary adds the following:

"These notes were made by joint dictation of Mr. Cromwell and myself in the hearing of both, June 30, 1904, 2 p. m. They are, as nearly as I can recollect, a full statement of what was said at the interview concerning the second part of the interview, and, added to that account already given to the press, make a full and fair statement of the entire interview. It is possible that there were some other objects alluded to, but they were unimportant, and I am unable at the moment to recall anything more."

EXHIBIT 23.

DEPARTMENT OF CONSTRUCTION AND ENGINEERING.

John F. Wallace—Member of Isthmian Canal Commission; member of executive committee; chief engineer.

Vacancy—First assistant chief engineer, in charge of technical studies and construction in the field.

Vacancy—Principal assistant engineer, in charge of records and office.

John Seager—Private secretary.

H. F. Tenny—Assistant private secretary.

COLON CONSTRUCTION DIVISION.

(Comprising the territory on the line of the canal from Colon to Bohio.)

F. B. Maltby—Division engineer, temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

E. P. Thompson—Chief clerk.

CHAGRES DIVISION OF CONSTRUCTION.

(Including the line of the canal from Bohio to Bas Obispo.)

W. E. Dauchy—Division engineer, temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

William E. Swift—Resident engineer.

GAMBOA DIVISION OF CONSTRUCTION.

(Including the Gamboa dam site and the Chagres River.)

W. E. Dauchy—Division engineer, temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

C. L. Carpenter—Assistant engineer.

CULEBRA CONSTRUCTION DIVISION.

(Including the territory from Bas Obispo to Miraflores.)

W. E. Dauchy—Division engineer temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

H. F. Dose—Resident engineer in charge of construction.

W. B. Ruggles—Resident engineer in charge of survey.

A. B. Nichols—Resident engineer in charge of technical work; canal prism.

Vacancy—Superintendent of transportation.

Vacancy—Superintendent of excavation.

Vacancy—Superintendent of mining.

Vacancy—Superintendent of dumps.

E. Zook—Assistant engineer, superintendent of tracks.

Sydney J. Kennedy—Chief clerk.

LA BOCA DIVISION OF CONSTRUCTION.

(Including the territory along the line of the canal from Miraflores to the sea.)

F. B. Maltby—Division engineer temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

A. C. Harper—Resident engineer.

Bureau of personnel, transportation, and quarters.

E. L. King—General quartermaster, chief of bureau, Panama.

R. E. Wood—Assistant general quartermaster, Empire.

James M. McGuire—Assistant general quartermaster, Panama.

Vacancy—Assistant general quartermaster, Colon.

C. L. Parker—Chief clerk.

Bureau of supplies.

E. C. Tobey—Chief of bureau.

Victor S. Jackson—Assistant.

H. Leonard—Chief clerk.

Bureau of waterworks, sewers, and roads.

C. E. Davis—Chief of bureau.

Henry W. Durham—Resident engineer, Panama.

Ernest W. Clark—Resident engineer, Colon.

Earle C. MacFarland—Chief clerk.

Bureau of machinery and equipment.

George D. Brooke—Chief of bureau.

Carl A. Strom—Superintendent of motive power and machinery.

Earl J. Banta—Master mechanic, Panama.

E. T. Paterson—Office assistant.

F. C. Cummings—Master mechanic, Bas Matachin.

Upton Lorentz—Master mechanic, Empire.

E. C. Harrington—Master mechanic, Cristobal.

Bureau of architecture and building.

A. M. Burt—Supervising architect, chief of bureau.
P. O. Wright, jr.—Assistant supervising architect, in charge of office.
J. H. Barbour—Chief clerk.

Bureau of meteorology and river hydraulics.

R. Arango—Resident engineer, chief of bureau.

Bureau of map making, lithographing, and printing.

C. F. Bertoncini—Chief of bureau.

Bureau of communication.

C. F. Annett—Chief of bureau.

EXHIBIT 24.

PANAMA, June 13, 1905.

Mr. H. G. PRESCOTT,
Superintendent Panama Railroad, Colon.

Mr. W. E. DAUCHY,
Division Engineer, Isthmian Canal Commission.

GENTLEMEN: The close inter-relations existing between the Isthmian Canal work and the Panama Railroad are such that prior to my leaving for the States it is necessary that you should be jointly advised as to your authority in relation thereto.

(1) The primary and fundamental function of the Panama Railroad is to assist in the expeditious and economical construction of the Panama Canal. This must never be lost sight of.

(2) A duty in equity is of course due to the commercial interests, for which the Panama Railroad acts as a common carrier. It is therefore incumbent upon the Panama Railroad to exercise due diligence in the prompt handling of all commercial traffic across the Isthmus. While this latter obligation can not be disregarded, on the other hand it is not the duty of the railroad company to serve the public to the detriment and delay of canal construction work.

(3) The superintendent of the railroad will carry out all orders issued by the acting chief engineer, in the chief engineer's absence, of every nature whatever.

If any requirement is made which the superintendent of the railroad thinks is not for the interest of the railroad, he is of course at liberty to discuss the matter and lay the facts fairly before the acting chief engineer, but after the acting chief engineer finally decides what shall be done he shall then fully and completely carry out the instructions, unless the action of the acting chief engineer should be finally overruled by appeal to the vice-president and general manager of the railroad and the chief engineer.

(4) In all cases where the Panama Railroad can be used to expedite the construction work of the canal the requests for service of any nature made by the acting chief engineer on the superintendent will be complied with promptly.

(5) The superintendent, however, will be held responsible for the safe operation of the Panama Railroad, and of course will not be interfered with by the acting chief engineer in regard to the details of operation.

(a) For instance, should the acting chief engineer desire excavated material transported over the tracks of the Panama Railroad, this work should be done subject to the orders and control of the superintendent thereof.

(b) Should the acting chief engineer desire track connections made with the Panama Railroad in any locality or at any time, the superintendent will cause such connections to be made.

(c) Should the acting chief engineer desire any special material given preference in movement, or any machinery or appliances of the canal moved over the tracks of the railroad, the superintendent will see that these movements are made as promptly and safely as possible.

(d) The superintendent of the railroad shall not, either himself or through his servants, put any annoyances, restrictions, or regulations upon the use of the Panama Railroad which will prevent the accomplishment of the purposes desired by the acting chief engineer.

(6) In the use of the new equipment provided for the canal, which in emergencies may be used by the railroad, preference shall at all times be given to the transportation of canal material; and if it is temporarily tied up by commercial uses, other equipment of a similar capacity and efficiency shall be furnished in lieu thereof for the transportation of canal material.

(7) This order does not imply that the railroad equipment shall be used by preference in commercial service to the detriment of the needs of canal work.

(a) In the latter case preference shall always be given to the transportation of canal material when, in the opinion of the acting chief engineer, such emergency exists.

(8) Under normal conditions, however, the railroad's available equipment shall be used indiscriminately by the superintendent of the Panama Railroad in the most efficient handling of both commercial and canal business in combination.

(9) It is desired that the acting chief engineer and the superintendent of the railroad shall have frequent personal conferences, keep in close touch, and work as harmoniously as possible with each other; and, while each will be independently responsible for the control of the work under his own charge, each will be held equally responsible for any neglect or failure to properly cooperate with the other.

Yours, truly,

JOHN F. WALLACE,

*Chief Engineer Isthmian Canal Commission,
Vice-President and General Manager Panama Railroad.*

EXHIBIT 24½.

APRIL 18, 1906.

The SECRETARY OF WAR,
Washington, D. C.

SIR: I have the honor to report that the following material, for which requisitions were made prior to April 1, 1905, arrived on the Isthmus during May, June, July, and August, 1905:

Building material:

Lumber	feet	6, 725, 067
Piling	linear feet	145, 100
Cross-ties		26, 450
Plumbing material	pounds	418, 911
Builders' hardware	do	120, 481
Cement	barrels	8, 000
Doors and blinds		21, 948
Paint	pounds	607, 923
Netting	rolls	817
Iron pipe	pounds	493, 000
Brick		94, 000
Iron roofing	sheets	48, 482
Guttering	linear feet	33, 700
Nails	kegs	8, 057
Wire cloth	rolls	820
Portable houses		9
Roofing paper	rolls	5, 797
Fire brick		130, 109
Fire clay	barrels	200
Coping	feet	9, 100
Metal laths	sheets	3, 000
Tar	barrels	335
Lime	do	204
Tile	pounds	35, 350

Machinery:

Steel flat cars		200
Push cars		109
Hand cars		63

Machinery—Continued.

Motor car	1
Stone crushers	8
Earth spreaders	4
Milling machines	2
Steam pumps	2
Dump cars	52
Steam shovels	5
Planers	6
Bolt cutters	5
Ballast or dirt unloaders	7
Paper-cutting machine	1
Planing machines	2
Air compressors	4
Rollers	4
Automatic cut-off saw	1
Axle lathe	1
Boring and turning mill	1
Press machines	2
Forging machine	1
Boring machine	1
Clam-shell dredge buckets	2
Hoisting engines	12
Rock drills	50
Mortiser	1
Wet-tool grinders	5
Lathes	10
Motors	2
Elevator	1
Knife grinders	2
Planer and matcher	1
Ripping machine	1
Portable drilling machines	8
Centering machines	3
Air drills	45
Car-wheel borer	1
Cranes	3
Concrete mixers	2

In addition to the foregoing, large quantities of materials for the sanitation department were delivered during the same months in the way of mosquito oil, pyrethrum powder, garbage cans, night-soil cans, etc., as well as hospital equipment and supplies, and during the same months considerable quantities of miscellaneous materials not mentioned above were delivered in the way of small tools and supplies for use in the construction of buildings, furniture and equipment for hotel and other buildings used as quarters for the men, etc.

Respectfully,

JOSEPH BUCKLIN BISHOP, *Secretary.*

EXHIBIT 25.

MARCH 30, 1906.

SIR: I have the honor to acknowledge the receipt of your request for an official report respecting the condition of the affairs of the Commission on the Isthmus as they were found to be on May 24, 1905, the date Mr. John F. Wallace and I arrived on the Isthmus, he to assume the duties of the head of the department of engineering and construction, and I to assume the duties of the head of the department of government and sanitation of the Canal Zone. In compliance with such request I have the further honor to report as follows:

The affairs of the department of government and sanitation were found to be in such condition that the exigencies of the situation then existing and those which arose immediately thereafter were adequately dealt with by increasing the personnel, removing slight friction so as to secure more perfect coordination, and expanding the work and inducing hearty cooperation among the several departments, thereby increasing the effectiveness of the department in all

branches. The condition of that department resulted, in my opinion, from the fact that its several branches had been confirmed or created by legislative enactment of the Isthmian Canal Commission during the period that the Commission exercised legislative authority, and to the continued residence upon the Isthmus of Governor Davis, who had been on the Isthmus continuously from the preceding May, with the exception of a hurried visit to the States during the summer of 1904, occasioned by the death of his wife.

The laws of the Canal Zone prescribed the duties of the several officers of the department of government and sanitation, conferred the powers, and fixed the jurisdiction by which these duties were to be discharged. The officers of the organization were fully advised thereby, and with the guidance and direction of the governor, who was in constant personal touch with the situation, were able to start the machinery of government and to operate the same with a minimum of friction and disturbance. Questions of doubt and annoying incidents inevitable to the starting of any governmental agency were disposed of as soon as they arose, to the extent of the governor's authority to act in the matter. Such matters as could not be adjusted theretofore by reason of lack of authority in the governor were speedily adjusted upon the arrival on the Isthmus of a quorum of the executive committee of the Commission, during the time a quorum of that committee were on the Isthmus. The principal requirements of the situation in this department were met by an increase of personnel and extension of the work to meet the needs which had grown up during the months of uncertainty which preceded the reorganization of the Commission and the redistribution of the power thereof. This was accomplished by an exercise of power conferred upon the governor at the time of the reorganization and the authority committed to the executive committee.

The condition of affairs in the department of engineering and construction was deplorable, and may be summed up in the word demoralization; the causes leading up to that result may be summed up in the word precipitation. An effort had been made to carry on all branches of the affairs of that department simultaneously. I understand that you do not desire me to attempt to fix the responsibility. I doubt if that task could be performed with justice to the individuals concerned, even with the advantages derived from looking backward, the purpose of this report, as stated by you, being to detail the conditions of fact. This plan of having all branches of this department proceed simultaneously, each keeping abreast with the others in an enterprise of magnitude, would be difficult under favorable conditions. The attempt on the Isthmus was rendered impossible by the conditions there existing. The organization was a mere skeleton, inadequate and ineffective, its inefficiency further lessened by a personnel inadequate in number; and in the positions of foremen, bosses, etc., the efficiency of the personnel was further decreased by incompetency, resulting from ill-advised selection; in numerous instances men well equipped for one service were put in places requiring a different service.

The number of common laborers on the Isthmus was entirely inadequate to the carrying on of the numerous works and branches at one time. The demand for common labor was incessant from all departments and branches thereof, and the efficiency of the employees of this grade was impaired by the fact that if a man was dissatisfied with his work or treatment in one gang, he could quit and secure immediate employment in any other gang where he thought the work and treatment more agreeable; at this time all the bosses of all the gangs were at liberty to employ common laborers who sought employment. Incidents were numerous, and complaints were frequent, that the bosses of one gang were inducing men to leave other gangs and come to them, such course being the natural result of shortage of labor supply. This situation had continued for some time, and Chief Engineer Wallace, during the six weeks he was in the States at the time of the reorganization of the Commission, had been at work actively securing men for the organization, especially foremen and bosses; he had also, prior to his coming to the States, and acting under authority conferred by the old Commission, sent labor agents to Jamaica, Barbados, and other West India Islands, for the purpose of working up a movement of common laborers from those islands to the Isthmus. Chief Engineer Wallace completed his plan of organization after arrival on the Isthmus in May, 1905, and it was put into effect by his order, approved by the executive committee on June 14, 1905. The movement inaugurated by the labor agents in the West India Islands was successful, and in April and May, and continuously thereafter, large numbers of common laborers arrived on the Isthmus and entered the employ of the Panama Railroad and the Isthmian Canal Commission.

The plan of simultaneous progress of the several branches of the work was further hindered by the nonarrival of machinery, building material, and other supplies which had been contracted for by the old Commission during the year 1904. Much of the delay in delivering material and supplies was unavoidable, occasioned by the necessity of manufacturing. Some of it was occasioned by the neglect of the contractors, accidents, inability to secure means of transportation, etc., but the delay worked great hardship and produced inevitable confusion. Deliveries of these purchases began to be made in April and May, 1905, and it became necessary to discharge cargoes and distribute along the line great quantities of heavy machinery, material, and supplies, which came all together, instead of being distributed over the period of time contemplated at the time the orders were placed. The delays in delivery intensified the situation produced by the arrival of these supplies, for the new docks had not been built, nor were the old docks supplied with the proper appliances for handling heavy individual pieces or large quantities of goods. The same was true of the Panama Railroad. The road itself and its transportation facilities when purchased from the French company were inadequate to the work demanded by the arrival of these supplies, for the rails were light, the engines, cars, and rolling stock small, old, and of obsolete pattern. The material for the reconstruction and modernizing of the road and the heavy, large engines and cars arrived at the same time as did the other supplies, which required heavy modern transportation facilities for distribution along the line of the canal.

Another matter which had added to the demoralization in the work of construction was that the rains, which began in the latter part of April, had done much damage to the work which had been going on in the Culebra cut and elsewhere along the line—in fact, wherever excavation had been going on. The new tracks at Culebra had been washed out and the work of the steam shovels seriously interfered with. The rains had made the work of excavation more difficult and disagreeable and further impaired the efficiency of the working force and impeded the performance of the work itself.

The new men arriving in large numbers from the West Indies and elsewhere were, in a large measure, ignorant of the work which they were employed to do, it being something entirely outside of their experience at home, and this intensified the inability to secure the desired results resulting from the want of intelligent foremen, bosses, etc., to exercise supervision and give direction to the laborers of this class. The labor situation was further complicated by the fact that adequate provision for housing and feeding the men had not been made in advance of their coming. In the absence of lumber and building material it was impossible to make provision for housing the men. Of the 2,145 structures taken over from the French company, only 357 (including hospital structures, administrative offices, etc.) had been renovated and repaired, and these were distributed at various locations along the entire line of the canal. The only provision made for feeding the men was to secure the services of some private contractors, who were required to look to the men for their pay. This arrangement was unsatisfactory to both the boarding-house keepers and the men, and was finally abandoned. The hotels for clerks and superior officials at Corozal and Culebra were in process of erection, but were not completed at the time of our arrival in May, and when completed were turned over to private contractors, with results as unsatisfactory as in the case of the gang boarding contractors. The dissatisfaction resulting from inadequate sleeping and eating accommodations affected all departments alike. Shortly before our arrival on May 24 a gang of Jamaicans, at work digging trenches for the Panama water-works, refused to go to work one morning, alleging that they had not had sufficient food. The man in charge of the gang called upon the Panama police to compel the workmen to go to work. The police undertook to comply with his request, and a riot occurred, in which a number of Jamaicans were seriously injured. This incident occasioned much ill will among the other Jamaicans at work in the city of Panama and elsewhere, and for a time bid fair to produce serious consequences.

Another and very serious complication affecting the common laborers in all branches of both departments was the failure to pay the men promptly. The Commission had agreed to pay the men every two weeks, but delays in payment not infrequently extended three or four weeks beyond a pay period. This was a very serious matter to the men who were obliged to feed themselves. Their credit at the stores where they purchased their food supplies enabled them to subsist for one week only, and if their pay was delayed beyond that period they had no means of securing food, to which was added the natural fear that

they would not be paid at all. The inevitable result was that the men refused to work, asserting either that they were unable to work for lack of food or unwilling to work without being paid. They would come to the administration building in Panama in a body, demanding payment, and when told that it was impossible to pay them would proceed to the consul of their home government, especially the British consul, and demand that he assist them in securing their money. For weeks at a time there was not a day passed without strikes of this character somewhere along the line. This condition had prevailed prior to our arrival, and continued thereafter until the Commission opened the commissaries to the common laborers and adopted the present system of timekeeping and payment. The cause of the delayed payment was that the work of verifying the pay rolls could not be entered upon until the close of the last day of the two weeks' working period. The old Commission adopted the rule of auditing the pay rolls in advance of payment. The force in the local auditor's office was inadequate to do the work promptly, and after they had passed from the auditor's office into the hands of the disbursing officer he deemed it necessary, for his own protection, to go over the rolls again. The force in the disbursing office was insufficient to do this work promptly, and the double examination made inevitable inordinate delay.

The situation was further complicated by the fact that yellow fever, a few cases of which had occurred from time to time since the preceding July, began to spread, and in June, 1905, it became epidemic: a number of clerks and officials occupying the offices in the administration building in the city of Panama had yellow fever. Two of the superior officials—the local auditor and the chief of the bureau of architecture and building—died from the disease, and the medical authorities had announced that the administration building was infected with the fever.

A spirit of unrest and uncertainty permeated the ranks of the Commission employees. The intention to reorganize the Commission had been announced, and had been delayed for months by reason of the consideration of the matter in Congress. The reorganization was finally completed, but none of the new Commissioners had arrived on the Isthmus. None of the officials or the employees knew whether or not they were secure in their positions, and all felt that affairs were so demoralized that a crisis was rapidly approaching. The very uncertainty as to what was impending increased the strain of the situation. Many of the employees were abandoning their positions and returning home, where they were giving out to the press sensational and extravagant stories, exaggerating and frequently misstating conditions, which were, at best, deplorable. This alarmed relatives and friends at home, who began beseeching the employees to come away. There was also the ubiquitous prophet of evil, who did not hesitate to foretell immediate or ultimate disaster and failure for the enterprise.

The saving grace of the situation, and the steadying influence which prevented utter demoralization, was the presence on the Isthmus of a number of Americans who had full confidence in the ability of the Government to overcome the adverse conditions and work out a favorable solution of the situation. These were the officers of the Army and Navy, who had recently gone through the trying times of the Spanish-American war; officers of the Public Health and Marine-Hospital Service, who had encountered similar conditions at other stations; Americans who had been employed in the military government of Porto Rico, Cuba, and the Philippine Islands; engineers and civilians who had had previous experience in Government service, and other Americans whose faith in the executive ability of Government methods to meet emergencies could not be shaken. These men held the situation in line, and were incessant and untiring in their efforts to promote the work, secure order and discipline, and at least to preserve the status quo until adequate measures of relief were devised and applied; the feeling being general that upon the arrival of the executive committee, vested with the full powers set forth in the President's order, there would be a beginning of the work necessary to solve the problems with which they were dealing.

Upon the arrival of the executive committee the large majority of the Americans on the Isthmus took new heart and courage, especially as it began to be understood that the heads of the departments possessed sufficient authority to apply immediate correctives or adopt adequate measures to overcome emergencies or necessities as they might arise; in other words, that delays were no longer unavoidable, and immediate action could be had, and that the executive committee could exercise the powers of the Commission, and the authority of the Commission was located on the Isthmus, and at all times available.

During the four weeks Mr. Wallace remained on the Isthmus substantial progress was made by the executive committee in straightening out the complicated situation, but the work was far from being completed—in fact, hardly begun—when he returned to the States. He completed and announced his plan of organization. Under this plan the work of canal construction was to be conducted by the chief engineer and two assistant chief engineers. The work was divided into 5 divisions, calling for 5 division engineers and 17 assistant division engineers and superintendents, making a total of 24 engineers. Including the position of chief engineer, there were but 10 engineers occupying the positions provided for.

From the minutes of the meeting of the executive committee held at Panama June 14, 1905, the following is quoted:

1. Commissioner Wallace submitted the following organization of the department of construction and engineering, effective June 1, 1905, which is hereby ratified, approved, and confirmed:

DEPARTMENT OF CONSTRUCTION AND ENGINEERING.

John F. Wallace—Member of Isthmian Canal Commission; member of executive committee; chief engineer.

Vacancy—First assistant chief engineer, in charge of technical studies and construction in the field.

Vacancy—Principal assistant engineer, in charge of records and office.

John Seager—Private secretary.

H. F. Tenny—Assistant private secretary.

COLON CONSTRUCTION DIVISION.

(Comprising the territory on the line of the canal from Colon to Bohio.)

F. B. Maltby—Division engineer temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

E. P. Thompson—Chief clerk.

CHAGRES DIVISION OF CONSTRUCTION.

(Including the line of the canal from Bohio to Bas Obispo.)

W. E. Dauchy—Division engineer temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

William E. Swift—Resident engineer.

GAMBOA DIVISION OF CONSTRUCTION.

(Including the Gamboa dam site and the Chagres River.)

W. E. Dauchy, division engineer temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

C. L. Carpenter—Assistant engineer.

CULEBRA CONSTRUCTION DIVISION.

(Including the territory from Bas Obispo to Miraflores.)

W. E. Dauchy, division engineer temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

H. F. Dose—Resident engineer in charge of construction.

W. B. Ruggles—Resident engineer in charge of survey.

A. B. Nichols—Resident engineer in charge of technical work; canal prism.

Vacancy—Superintendent of transportation.

Vacancy—Superintendent of excavation.

Vacancy—Superintendent of mining.

Vacancy—Superintendent of dumps.

E. Zook—Assistant engineer, superintendent of tracks.

Sydney J. Kennedy—Chief clerk.

LA BOCA DIVISION OF CONSTRUCTION.

(Including the territory along the line of the canal from Miraflores to the sea.)

F. B. Maltby—Division engineer temporarily, pending selection of a permanent man.

Vacancy—Assistant division engineer.

A. C. Harper—Resident engineer.

This plan involved the transfer of authority in numerous instances and occasioned no little ill will and dissatisfaction—matters which would have been readily adjusted had he remained and insisted upon harmonious action—but on his going away the dissatisfaction became rampant and resulted in numerous contentions, which increased, rather than diminished, the disorganization. His departure left but one member of the executive committee on the Isthmus, and therefore the powers of the executive committee were inoperative. Occasions continued to arise for the exercise of the authority vested in the head of the department of engineering and construction and the general manager of the Panama Railroad. Whenever the emergency was so far-reaching as to affect the department of government and sanitation I did not hesitate to exercise the authority and issue such orders with reference thereto as I thought were required, relying upon subsequent ratification. I attach hereto copies of three orders of this character, each of which was issued to an officer who was not in my department. Wallace left just at the time the yellow-fever epidemic was at its height, and the two combined brought about a crisis which well-nigh resulted in a panic. The number of employees returning to the States greatly increased, and upon arrival at New York and elsewhere they gave out statements to the press of highly sensational character. The difficulties and discomforts of the situation were many and distressing.

Everyone felt that Wallace had abandoned the situation, and that his action countenanced similar action on the part of others, and that the inevitable result would be that imperative action by the executive committee, which should be had at once, must of necessity be long delayed and probably deferred until such time as to make the action unavailing. Had means of departure from the Isthmus been immediately available, I believe we would have had both a panic and a rout. Before it was possible for any considerable number of our people to leave the Isthmus, the papers arrived containing the expression of views made by Secretary Taft at the time of his interview with Mr. Wallace in New York. The effect of reading this published statement was immediate, far-reaching, and beneficial. The ordinary comment was, "Well, that ought to stop the cold-footed brigade," or some expression of like tenor. It brought to the attention of all of us what had been lost sight of in the general discomfort, that there was something more involved in the enterprise in which we were engaged than our personal comfort or personal advantage; it aroused the spirit which is so important to armies or other large bodies of men engaged in a common endeavor, that they owed allegiance to the cause, and, having once entered upon the accomplishment of a purpose, they must of necessity sacrifice personal advantage to the public enterprise. There were many evidences that came to my knowledge, and to my personal observation, that the effect of the publication of the Secretary's remarks promoted, if it did not create in the minds of the Americans on the Isthmus, the sentiment to which I have referred.

Very respectfully,

CHARLES E. MAGOON, *Governor.*

THE SECRETARY OF WAR.

ISTHMIAN CANAL COMMISSION, EXECUTIVE OFFICE.

Ancon, Isthmian Canal Zone, July 7, 1905.

SIR: I have the honor to inclose herewith copies of letters which I have to-day written to the supervising architect, the chief of material bureau, and the superintendent of the Panama Railroad in respect to the erection of additional quarters and repair of old buildings, and also of the necessity for prompt transportation of lumber and other building material already here or about to arrive on the Isthmus to the various sites decided upon by the Commission.

Very respectfully,

CHARLES E. MAGOON, *Governor.*

CHAIRMAN ISTHMIAN CANAL COMMISSION,

Washington, D. C.

ANCON, ISTHMIAN CANAL ZONE, July 7, 1905.

SIR: I have already had several conversations with you respecting the necessity for the erection of additional quarters for the employees of the Isthmian Canal Commission on the Isthmus and of repairing the old structures taken over from the French Canal Company, fixing them up so that they could be used as homes by our employees. This provision is essential not only to the peace and comfort of the employees, but to the great work of proper sanitation.

The erection of the quarters and repair of the buildings has been greatly delayed by reason of the nonarrival of lumber of proper dimensions and building material required for the work. I am advised that large quantities of lumber of the proper sizes will shortly arrive, both at La Boca and Colon. In fact, the vessel now discharging at Panama brought a considerable quantity of the desired sizes. Within a very short period the long-awaited-for building material will be afloat on one side or the other, and probably both sides, of the Isthmus, and it will then become necessary to deliver necessary amounts at the various building sites along the line of the canal and the Panama Railroad. It is of the utmost importance that we avoid additional delay of even one day. I am aware that the rolling stock of the Panama Railroad and its facilities for handling freight are taxed to their utmost, and this fact occasions the writing of this letter, for I wish to urge upon you that the paramount necessity of the present is the construction and repair of quarters and increase of hospital space. The transportation and delivery over the line of the Panama Railroad Company of this lumber and building material should be given precedence to all other business, and the transportation facilities of the road should be worked to their utmost capacity to accomplish the transportation in the least possible time, and the facilities for unloading vessels and landing the lumber should likewise be devoted to the unloading of lumber ships in preference to the more profitable commercial freight of the road.

I know from my previous correspondence with you that you are aware of the importance of the matter to which this letter refers, but it is possible that, the railroad having heretofore been operated as a commercial enterprise, you will think that the commercial traffic paying higher rates than is paid by the Commission is entitled to preference.

As a director of the road and a member of the executive committee of the corporation, I assume the responsibility of requiring that the lumber and building material to be used in the construction and repair of quarters, hospitals, and other sanitary works of the Commission and of the government of the Canal Zone shall be given precedence over any and all other traffic tendered to the road. I do this for the purpose of relieving you of responsibility should it be found necessary to delay the transfer of commercial freight or to put on extra trains or work overtime.

I know, from conversations heretofore had with you, that you realize the importance of the proper sanitation of the Isthmus, especially in the construction of more and better quarters, and I rely with confidence upon your active cooperation.

Yours, very truly,

CHARLES E. MAGOON,
Governor.

Mr. H. G. PRESCOTT,
Superintendent Panama Railroad, Colon.

ANCON, ISTHMIAN CANAL ZONE, July 8, 1905.

SIR: I learn that about 50 per cent of the force of carpenters and builders attached to the architectural bureau are unemployed, while at the same time there is imperative need of more quarters. The most important measure now pending is the sanitation of the Isthmus, and to accomplish such sanitation it is of prime necessity that additional quarters be provided by the erection of new buildings and the repair of the old structures taken over from the French company.

The failure to provide quarters heretofore has been occasioned by the non-arrival on the Isthmus of lumber of required dimensions and other building material. In recent conversations with me you stated that lumber of proper dimensions and other building material necessary for construction of dwelling houses and the repair of old ones would shortly arrive on both sides of the Isthmus, and that the vessel now being unloaded at the American wharf in

the city of Panama brought a considerable quantity of lumber of the required sizes.

In our conversation yesterday I understood you to say that you intended to complete the unloading of the vessel now in the Bay of Panama, transport the lumber to La Boca, pile, inspect, and measure it before any was issued for construction purposes. I am advised that this course, if adhered to, would occasion a delay of nearly a month's duration. The necessity for increased quarters outside of Panama and additional hospital structures is so great that not an hour's delay should take place that can be avoided.

Obviously much time could be saved if an arrangement could be made with the master of the vessel now discharging lumber whereby the sizes required for dwelling houses could be loaded on cars at the American wharf in Panama, inspected, and measured by your men and by a man representing the ship. A record should be kept of the amount so disposed, and it seems as easy to satisfactorily ascertain the quality and amount of lumber on a car as in a pile at La Boca. If this course is adopted the carpenters could be put to work at once, and not stand in enforced idleness awaiting the complete discharge of the cargo. I hope you can make the suggested arrangement. If you can not do so, or if there are reasons for not adopting the course which commend themselves to your judgment, will you please make report thereof in writing?

Yours, very truly,

CHARLES E. MAGOON, *Governor.*

Mr. E. C. TOBEY,

Chief of Bureau of Supplies, Ancon.
(Through the Acting Chief Engineer.)

ANCON, ISTHMIAN CANAL ZONE, July 7, 1905.

SIR: I understood you to say, in response to my inquiry this morning, that practically one-half of the force of carpenters and builders attached to the bureau of architecture and building were not at work because of inability to secure the delivery of lumber at the places selected as sites for the numerous buildings heretofore authorized by the Commission.

You also advised me that you were about to begin the grading for the governor's house, but that it would be necessary to erect quarters for the laborers to be employed on that work, and that such erection would require lumber of the sizes needed for construction and repair of quarters intended for the employees of the Commission.

Thereupon I instructed you orally, and I now wish to instruct you in writing, that you are not to enter upon the construction of the governor's house until adequate provision has been made for the proper housing and feeding of the entire force of the Isthmian Canal Commission on the Isthmus, including not only clerks and employees, but also common laborers, and including also hospital accommodations for not less than 5 per cent of the maximum force to be employed during the year ending June 30, 1906.

I am giving you this instruction in writing because you have heretofore been advised of the fact that the Secretary of War especially directed the head of the department of construction and engineering that the erection of the governor's house was to be commenced at once and continued without interruption until completed. I assume the responsibility of modifying the Secretary's direction, for it is clear that an emergency exists for increased quarters and accommodations for the employees, and that every energy of the Commission should be exerted toward meeting it. The necessity is paramount, and you should act accordingly.

Yours, respectfully,

CHARLES E. MAGOON, *Governor.*

Mr. A. M. BURTT,

Supervising Architect,

Chief of Bureau of Architecture and Buildings, Ancon.

(Through the acting chief engineer.)

EXHIBIT 26.

FEBRUARY 12, 1906.

MY DEAR MR. SECRETARY: With reference to former Chief Engineer Wallace's statement before the Senate committee that the authorities refused to take the result of his year's work on the Isthmus and declined to receive his reports for the benefit of the Canal Commission, and that all of his work was conse-

quently lost to the United States, I beg to call your attention to the following official documents, as shown by the files of this office.

First. An extract from the minutes of the Canal Commission of July 1 last, directing the chairman to make formal request of Mr. Wallace for the delivery by him to the Commission of all data or material concerning the canal which he had brought with him from the Isthmus, together with copy of my letter to Wallace pursuant to such resolution and copy of reply made by his secretary.

A copy of my letter to Mr. Wallace, addressed to him at New York, was also sent to his home address at Flossmoor, Ill.

It will be observed that in the resolution of the Commission hereto attached Commissioner Ernst was also directed to inspect the condition of the work for a report as of July 1.

Later directions were issued to Commissioners Hains and Harrod, who sailed for Panama on July 5, that in addition to other duties with which they were charged they should study carefully the condition of the work, with the end in view of making a report as to the things actually accomplished under former Chief Engineer Wallace's supervision, until the time of the taking over of his department by Chief Engineer Stevens.

These actions were taken, not only in order that no loss or embarrassment should accrue by reason of the change in officials, but to afford a proper protection to the incoming chief engineer from disinterested and expert sources.

The reports by Commissioners Hains, Harrod, and Ernst were duly made and considered by the Commission and appear as Exhibit D in its last annual report.

In the joint report by Commissioners Hains and Harrod the following statement is made:

"We find in the chief engineer's office a series of reports for the fiscal year ending June 30, 1905, which corresponds substantially with the date of the transfer of duties from Mr. Wallace to Mr. Stevens. These reports are by the acting chief engineer and the heads of the several departments under his and give a concise statement of the work accomplished during the past year and its condition at this date. These reports are accompanied by many blueprints.

"We have taken a set of these reports to Washington to use in the preparation of the presentation to the advisory board of engineers, leaving the originals and copies on file in the chief engineer's office."

The reports of these three Commissioners are self-explanatory.

Very truly, yours,

T. P. SHONTS.

The SECRETARY OF WAR.
(Inclosure as stated.)

ISTHMIAN CANAL COMMISSION,
New York City, July 2, 1905.

Mr. T. P. SHONTS,
Chairman Isthmian Canal Commission, Washington, D. C.

DEAR SIR: Your letter of July 1 to Mr. Wallace has just been received by me, Mr. Wallace having left the city yesterday for the West.

Just as he was leaving he directed me to inform you that all the official papers and data relating to canal matters which he brought with him from the Isthmus were taken back to Panama by the chief clerk of his office, Mr. John Seager, who sailed from New York on the *City of Savannah* Monday, June 26, shortly after the interview with the Secretary of War.

I send you herewith a few letters which have been received since and which have not been answered. I have inclosed in an envelope addressed to the office of the chief engineer at Panama all carbon copies and other correspondence which has been disposed of relative to canal and railroad matters. This envelope I will to-morrow morning turn over to Mr. Drake, in order that he may forward it to the Isthmus, if he so desires, as the papers contained therein relate entirely to routine matters and pertain to the Panama files of the chief engineer.

There are no other official papers or matter relating to the canal or railroad here, and Mr. Wallace did not, of course, take any with him to the West.

Mr. Wallace, as he was boarding the train, also requested me to ask you to kindly have the check for the last half of his June salary forwarded to him at Flossmoor, Cook County, Ill.

Very respectfully,

H. F. TENNY,
Assistant Secretary.

ISTHMIAN CANAL COMMISSION,
Washington, D. C., July 1, 1905.

DEAR SIR: At a meeting of the Isthmian Canal Commission held to-day your resignation and its acceptance were reported and confirmed.

The Secretary of War informs us that you mentioned to him that you had brought to the United States certain data and studies concerning the canal.

Agreeably to the direction of the Commission, I beg leave to ask you to kindly send us, at your early convenience, all data, studies, and other matters in hand.

With regards,

Yours, truly,

T. P. SHONTS, *Chairman.*

JOHN F. WALLACE, Esq.,
Hotel Marie Antoinette, New York City.

[Extract from minutes of the ninety-eighth meeting of the Isthmian Canal Commission, July 1, 1906.]

* * * * *

The engineering committee members of the Commission stated that they had all available data and information in shape ready for submission (to the Consulting Board) relative to the various levels, but that there was not in the Washington office adequate data and information to enable it to prepare plans for the sea-level project or for the presentation of such plans to the Advisory Board. It was believed that the late chief engineer, Mr. Wallace, had brought with him from the Isthmus some data of this character in accordance with his statement to that effect made to the Secretary of War. Accordingly, the chairman of the Commission was directed to make a formal request of Mr. Wallace for the delivery by him to the Commission of all data and material concerning the canal which he had brought with him from the Isthmus. The chairman at once prepared and dispatched this letter. The Commission realized, however, the urgent necessity of gathering and preparing for submission the requested data for this most important purpose and to avoid the delay incident to correspondence; and also, to obtain the advantage of personal inspection, it was determined that General Hains and Major Harrod and, if possible, also Colonel Ernst, should at once proceed to the Isthmus for this purpose.

Upon motion it was duly and unanimously—

"Resolved, That the engineering committee of the Commission be, and it is hereby, charged with the duty of preparing the data and plans for submission to this Commission in advance of the meeting of the Advisory Board of Engineers called by the President to be held in Washington September 1 next; and that the engineering committee submit to this Commission this data by the 15th of August; that General Hains and Major Harrod of the engineering committee and, if possible, Colonel Ernst also, proceed as quickly as possible to the Isthmus, there to secure the requisite data for the purpose aforesaid, and also there to inspect the condition of the work for a report as of July 1 or a later date if practicable."

EXHIBIT 27.

PIPE LINE.

WAR DEPARTMENT, OFFICE OF THE SECRETARY,
April 9, 1906.

[Memorandum for Mr. Bishop, Isthmian Canal Commission.]

The Secretary desires to see all the letters and papers concerning the franchise granted the Union Oil Company on the Isthmus, and all letters written in connection with that matter to other companies.

FRED W. CARPENTER, *Private Secretary.*

WASHINGTON, D. C., November 28, 1905.

HON. WILLIAM H. TAFT, *Secretary of War.*

SIR: The Union Oil Company of California desires to construct and operate a pipe line across the Isthmus of Panama for the purpose of transshipping oil from its tank ships at Panama to tank ships at Colon for shipment to Atlantic ports of the United States and elsewhere.

To this end the Union Oil Company of California applied to and secured from the Government of the Republic of Panama a concession granting to the company the right to construct docks and pumping facilities at the ports of Panama and Colon, and giving the consent of the Government of Panama (so far as such consent is necessary and proper), as lessor of the territory known as the Canal Zone, and subject to the further consent of the officials of the isthmian canal, to the construction and operation of a pipe line from Panama through said Canal Zone to Colon.

The permission of the officials of the isthmian canal being also necessary to the construction of any pipe line through the territory known as the Canal Zone, the Union Oil Company of California hereby respectfully applies for such permission, and agrees, as a condition to the granting of such permission, that if, at any time during the period of ten years immediately following the completion of such pipe line, the United States Government, the Isthmian Canal Commission, or their contractors or agents desire to use oil for fuel or such other purposes as the oil may be adapted to, the company will deliver the oil at such points along said pipe line as may be desired, at the price of 90 cents gold per barrel of 42 gallons, and to such an amount as will meet the requirements.

It is distinctly understood, however, that the granting of the desired permission to construct a pipe line through the Canal Zone imposes no obligation whatsoever under the above proposition upon the United States or its agents to purchase or use any oil from this company at any time.

The Union Oil Company of California further agrees that as soon as the desired permission is granted it will proceed with due dispatch to install its pipe line and appurtenances in such locations as may be designated by the chairman of the Isthmian Canal Commission or the engineer in charge, so as not to interfere with the canal or auxiliaries. If at any time it becomes necessary to change the location of any portion of the pipe line to avoid interference with the canal works, the company will promptly make such changes, at its own expense, whenever and as directed to so do by the officials of the isthmian canal.

Respectfully,

THE UNION OIL COMPANY OF CALIFORNIA,
By JOHN BAKER, Jr., *Manager.*

THE NEW WILLARD,
Washington, D. C., December 4, 1905.

HON. WILLIAM H. TAFT,
Secretary of War, Washington, D. C.

DEAR SIR: In the very limited interview which you were able to accord me on the 1st instant, at which time I presented to you the request of the Union Oil Company, of California, for permission to construct and operate a pipe line across the Isthmus of Panama, through the Canal Zone, I was unable to acquaint you with certain features of the proposition which are of national importance. Permit me, please, to do so herein.

The Union Oil Company, of California, is anticipating by this undertaking the principal purpose for which the isthmian canal is being constructed.

The carrying out of its plans to deliver California oil in the markets of the world will result in a vast increase in American commerce. The business already assured the company will necessitate its building a fleet of tank steamers and vessels in American shipyards. Having learned of opposition to its plans by competitors and realizing that every possible effort will be made to retard its efforts to reach the oil markets of the world, and also having in view the delay which would be necessitated by building steamers and vessels, the company last month purchased all the American tank steamers which were not owned by its competitors, viz: *Lansing*, *Roma*, *Washtenaw*, and *Argyll*. The *Lansing* is the largest and fastest American tank steamer afloat. The acquisition of these steamers places the company in the position of having as much—

In the point of capacity—American oil tank steamer transportation as any other oil company in the United States. These steamers, however, represent but a small portion of the fleet the company will have to provide to carry out its plans.

During this year the Union Oil Company has been offered a market for large quantities of its oil on long-term contracts in some of the principal Atlantic coast ports of the United States, and also in England. The great cost of transportation via the long route around Cape Horn or the Straits of Magellan operated against the acceptance of this business. Via the much shorter and cheaper route across the Isthmus of Panama by means of a pipe line, pending the opening of the Panama Canal, California oil can be profitably marketed in competition with other oil in Atlantic coast ports of the United States and in Europe.

In order to meet the demands above referred to for its oil and to generally extend its business the Union Oil Company decided to institute a transisthmian route, to enable it to reach the Atlantic seaboard and European markets. To this end it applied to and received from the Republic of Panama a concession granting to the company the right to construct and operate a pipe line from Pacific ports of that Republic to ports on the Atlantic side. A translated copy of this concession has been furnished you.

A perusal of this document will show that the company can install its terminal plants and pipe line in strictly Panama territory. The route the company would adopt would be the Government road across the Province of Chiriqui from the Port of David on the Pacific coast to Bocas del Toro on the Atlantic coast, a route practically parallel with the canal, but about 200 miles farther north.

The other route, to the use of which the consent of the isthmian canal officials is necessary, is through the Canal Zone. Of the two routes the company frankly admits its preference of the Zone route, for the following reasons:

First. It is about 20 miles shorter than the Chiriqui route, and does not require the maintenance of intermediate pumping stations, which would be necessary at Chiriqui.

Second. The existence of the Panama Railroad would greatly facilitate the distribution of the 4,000 tons of pipe along the route through the Zone, as against wagon distribution over the Chiriqui road.

Third. In the Zone the company's property would mostly be under the jurisdiction of the United States.

Because of these advantages of the Zone route the company asks permission to lay its pipe line there, and in consideration for such permission gives the United States or its agents the privilege, if desired, of obtaining fuel oil at an exceptionally low rate, which would mean saving of at least 25 per cent over coal.

Respecting the question whether oil will or will not be used in place of coal in the work on the canal, that is a matter quite apart from the purpose of the company's request to you, which is, to enable it to get its oil from the Pacific to the Atlantic ocean. But, as the use of oil for fuel has, wherever tried, shown such a great saving over coal—in cost as well as labor—it is more than probable that it will ultimately be used at Panama.

Therefore it seems obviously to the advantage of the United States Government in its work on the canal to have this pipe line and oil supply paralleling the whole line of the work. Such a plant provides transportation for delivering the oil at any point required at a very low rate for a long term of years, obviates expense to the United States for tanks and railroad transportation, provides a supply of fuel oil at the terminal ports of the canal for use by naval vessels of the United States, if desired, and the pipe line will in no way interfere with canal or railroad construction. All this without the United States Government being obligated in any way to purchase oil from or deal with this company in preference to any other.

A brief statement respecting the company and its affairs may not be amiss:

The Union Oil Company, of California, is the oldest (established over twenty years ago) and largest oil company on the Pacific coast. It owns and controls 172,000 acres of oil-producing land in California; has extensive systems of pipe lines connecting its oil fields with three seaports; operates two large refineries; maintains over 40 distributing stations, and owns and operates between California and the Hawaiian Islands and ports of the northwest coast a fleet of American tank steamers and barges. The company's supply of crude oil or fuel oil is believed to be the largest in the world.

During the twenty years and more that the company has been in the oil business it has expended over \$12,000,000, and its present plans contemplate and it is prepared to invest \$12,000,000 more, the greater portion of which will be expended in transportation facilities to enable the company to reach distant domestic and foreign markets. This means business for American shipyards and the development of American trade in foreign lands. For many years it has been the policy of the company to enter into long-time contracts with consumers at fixed prices. This it has been justified in doing because of its large holdings of oil territory, and it has proven mutually beneficial to the consumers and the company, as the former are warranted in investing the money required for converting their plants to burn oil and the company is justified in providing the facilities necessary for supplying the business, as it is practically assured interest on its investment.

The shares of the company are largely held by the representative business men of California. There are also many shareholders throughout the East, quite a large number being resident of New Jersey.

The company owns every branch of the oil business, including more proven territory than any other oil company in the world. Its position as owner, together with its policy of making long-time contracts, has been the basis of its success.

The dry season has now begun on the Isthmus, and the company desires to take immediate advantage of this condition to more quickly construct its pipe line and terminal facilities. While the company would exceedingly regret a refusal of its application for permission to traverse the Canal Zone, such refusal would, for reasons given above, force it to immediately begin constructing its pipe line via the Chiriqui route. Once established there—200 miles north of the Canal Zone—the pipe line never could be utilized for supplying oil along the route of the canal, should oil at any time be desired there, and the company would not feel warranted in establishing another half million dollar pipe-line plant in the Canal Zone, nor could it name so low a rate for oil as it has in its formal application of November 28.

Very respectfully,

JNO. BAKER, Jr.,
Manager Union Oil Company, of California.

[Memorandum for the Secretary of War.]

DECEMBER 6, 1905.

With reference to the request of the Union Oil Company, of California, for a franchise to construct a pipe line across the Isthmus, and following up our conversation of Monday, I find that the following-named individuals and corporations have from time to time addressed the Commission on this general subject:

Union Oil Company	California.
Lindon W. Bates	New York.
The Texas Company	Texas.
Associated Oil Company	California.
Gulf Refining Company	Pittsburg.
Higgins Oil & Fuel Company	Beaumont, Tex.

The foregoing companies, while not in every instance expressly so stating, have as an underlying motive or desire to furnish to the Commission oil for fuel, but do not make specific proposals setting forth the price at which they would agree to deliver oil.

There is a consensus of opinion that the equivalent of oil for fuel, as compared with coal, is 90 cents per barrel to \$4 per ton. We have been paying approximately \$4 for Pocahontas coal delivered on the Isthmus, although the last contract for coal was with the Fairmont people at \$3.70 per ton. This Fairmont coal at \$3.70 has been thoroughly tested out and found to be no cheaper and, if anything, less desirable than Pocahontas at \$4.

At the ratio above set forth the only economy in the use of oil would be cheaper cost of handling between points on the Isthmus. It would cost approximately \$350 to convert each locomotive into an oil burner, and Chief Engineer Stevens states that it would be a troublesome matter to educate the class of firemen on which we are dependent to the use of oil (as they have now been

taught to fire with coal); furthermore, in derallments, which are inevitable, it would involve additional danger.

With the present data and information the Commission is not inclined, therefore, to substitute oil for coal as fuel.

The Union Company, however, on a later date—November 28—submitted copy of a concession secured from the Panaman Government, authorizing them to lay a pipe line from Chiriqui across to Bocas del Toro, with privilege also of laying a similar line from Panama to Colon, subject to the approval of the officials of the government of the Canal Zone, through which it would have to pass. They state that they have purchased tank steamers, and it is their plan to transport oil to the Pacific terminus and pipe the same across the Isthmus to their steamers for delivery on the Atlantic coast of the United States and elsewhere. They offer as an inducement to the Commission for granting this franchise to cross the Zone that they will agree to sell oil to the Commission or to any future contractor at 90 cents per barrel. They do not, however, make as a condition precedent that the Commission shall purchase its oil, but state their primary object is to secure a pipe line across the Isthmus for transportation purposes.

In so far as the utilization of oil from the Union Company at 90 cents is concerned, the views of the Commission are set forth in a foregoing part of this memorandum.

With reference to the granting of this franchise to the Union Company for through transportation purposes, to my mind there are two dominant objections which present themselves at this time:

1. To grant it to the Union people would be an exclusive concession, contrary to policy, when others are undoubtedly anxious to secure the same privilege.

2. There is considerable talk about changing the Atlantic terminus of the canal, which, if done, would result in the practical ultimate abandonment of Colon as a transportation terminal.

It might be added that as a railroad business proposition pure and simple the granting of a pipe-line concession might in effect take away business from the Panama Railroad, and in future from the Panama Canal.

T. P. SHONTS, *Chairman.*

WAR DEPARTMENT,
Washington, December 29, 1905.

MY DEAR MR. SHONTS: With reference to the application of the Union Oil Company to put a pipe line across the Isthmus, through the Zone, I have submitted the whole matter to the President and the Cabinet, and the President, upon the advice of the Cabinet, has concluded that it would be wise to grant a clearly revocable license to the oil company at a compensation of \$500 a month; this to cover the right of way through property belonging to and under the control of the Canal Commission. Of course with reference to the property owned by private persons along the way the licensee will have to make his own terms. My impression is that our license might properly include the license of the railway company as well. I am anxious, however, of course, that such a concession as this shall not in any way interfere with the convenience of the Canal Commission and the railway company in the great works of construction which they have under way. Will you kindly, therefore, confer with Chief Engineer Stevens, and obtain from him a statement of such limitations or restrictions as may be necessary to secure the result I have stated? Perhaps it would be wiser for you to send Stevens to me, and I can confer with him directly as to these limitations which ought to enter into the license which the President has directed me to draw and submit to him. You will observe that this license is not exclusive—we could not make it so even if we wished to do so, as we do not—and that it will end whenever the interests of the Government require it to end. The Union Oil Company, or any other licensee, if other licenses are granted, in building its line must take the risk of being invited to leave at any time. The money which will result from this license will be used for the public schools of the Isthmus.

Very respectfully, yours,

WM. H. TAFT,
Secretary of War.

Hon. T. P. SHONTS,
Chairman Isthmian Canal Commission, Washington, D. C.

ISTHMIAN CANAL AFFAIRS,
OFFICE OF ADMINISTRATION,
Washington, D. C., December 29, 1905.

MY DEAR MR. SECRETARY: I beg to acknowledge receipt of your letter of to-day, with reference to granting a revocable license to the Union Oil Company to put a pipe line across the Isthmus, through the Zone, and will ask Mr. Stevens to see you regarding the matter.

I am convinced that other companies will ask a similar privilege, and I presume it will be the disposition of the Government to treat them all alike.

Very truly, yours,

T. P. SHONTS, *Chairman.*

The SECRETARY OF WAR.

WAR DEPARTMENT,
Washington, January 10, 1906.

MY DEAR MR. PRESIDENT: I herewith inclose a draft of a revocable license to the Union Oil Company of California, permitting it to construct and maintain a pipe line for the conveyance of oil across the Canal Zone, which will include the revocable right to lay the pipe in the lands owned by the United States and the Panama Railroad Company, as well as the revocable power to apply for permission to construct and maintain such a pipe through private lands in the Canal Zone.

The benefit to the Government growing out of this canal license, as will be seen by its terms, is the payment for school purposes in the Canal Zone of \$500 per month, and also the privilege reserved to the Government at any time of withdrawing the oil from the pipe at any place along the line, at the price of 90 cents a barrel for crude oil. This is at the rate of \$4 a ton for Pocahontas coal. I have conferred with Chief Engineer Stevens in respect to the matter, and he says that it is quite probable that we shall in a short time find it useful to use this oil instead of coal in our locomotives and other engines along the Isthmus. This license, as stated on its face, is not exclusive, and there is no reason why any other company which wishes to accept such a license on the same terms may not be permitted to construct its line in the same way.

The suggestion made by Mr. Shonts that such a line might interfere with the business of the railroad company I find, after consultation with Mr. Stevens, is not likely to have any weight at present for the reason that the oil which is carried by the railroad company is all refined oil, from Colon to Panama, and is not crude oil, which the Union Oil Company, of California, proposes to pipe and which is the only kind of oil that could possibly be sold at 90 cents a barrel. Of course, should unexpected contingencies arise under which this piping of oil should interfere with any legitimate Government business, the absolute right to terminate this license would protect the Government's interest.

I inclose, together with draft of the license, Mr. Shonts's memorandum and copies of the applications of the Union Oil Company.

Very respectfully, yours,

WM. H. TAFT, *Secretary of War.*

The PRESIDENT.

P. S.—The legal authority to grant this revocable license may be found in the act of July 28, 1892 (27 Stat. L.), so far as the lands owned by the United States are concerned. The conferring of the revocable right to maintain the pipe in the Canal Zone generally is the mere exercise of the police power which, in the absence of specific Congressional authority, belongs to the President under his constitutional duty to see that the laws are faithfully executed. It is also authorized by the Spooner Act directing the construction of the canal.

The President of the United States, upon the recommendation of the Secretary of War, hereby grants to the Union Oil Company, of California, a revocable license to construct, operate, and maintain a pipe line and appurtenances for the transmission and delivery of oil over and across the lands owned by the United States or by the Panama Railroad Company—a company in which the United States is the owner of all the shares of capital stock—and across the territory now controlled by the Government of the United States known as the Canal Zone in the Isthmus of Panama.

The meaning of this revocable license is that with respect to the lands which are owned either by the Government of the United States or the railroad company, authority for such pipe line across such lands is hereby given. With respect to lands owned by private persons in the Canal Zone, said Union Oil Company must also obtain permission from the owners thereof before constructing the pipe line through their lands. This license is intended only to give the revocable right to occupy lands which are the property of the United States and the railroad company with such a pipe, and to extend to the Union Oil Company the revocable right to apply to private owners of the other lands necessary to construct the pipe line, and, after having secured their permission, to maintain a continuous pipe line across the Canal Zone during the continuance of this license.

But said revocable license is granted on the following express conditions:

First. That at any time the chief engineer of the Canal Commission may by notice require the removal of the pipe line, not only from the lands owned by the United States and the railroad company, but from the Canal Zone entirely.

Second. That the pipe line is to be constructed by the said company in a suitable location to be designated by said chief engineer.

Third. That any change or changes in the location of said pipe line that may, from time to time, be thought necessary by said chief engineer, shall be made by said company promptly at its own expense.

Fourth. That the said pipe line shall be constructed and in operation on or before the 1st of August, 1906.

Fifth. That after the pipe line is constructed and ready for the flowing of the oil the Union Oil Company shall pay into the treasury of the Canal Zone the sum of five hundred dollars (\$500.00) a month in money to the United States for the support of the public schools of the Canal Zone on the first of each and every month in advance. Should the line be constructed before the first of August, then the monthly payments are to be made from the time that oil begins to flow in the pipe at the monthly rate before stated. Should this license be revoked, the revocation to take effect at any time after the first of the month, there shall be a repayment to the Union Oil Company of the rental for the part of the month remaining after the revocation of the license.

This revocable license is granted on the further condition that oil shall be furnished, at any convenient point to be selected by the chief engineer of the Canal Commission along the line of the pipe line in the Zone, to the railroad company or the Canal Commission at the rate of ninety cents (\$.90) a barrel for the crude oil, if either the Canal Commission or the railroad company desires it.

It is distinctly understood that this is not an exclusive privilege granted to the Union Oil Company, and that the President reserves the right to grant other such revocable licenses as it may seem proper and in the public interest.

As the railroad company exists under a charter, as a New York corporation, and is under the technical control of the president and board of directors, this revocable license should be accompanied by a revocable license from the railroad company, concurring in the grant of this revocable license upon the terms and conditions herein stated, in order that the revocable right to enter upon the lands of the railroad company for the construction and maintenance of the pipe line may be made technically complete.

THEODORE ROOSEVELT.

By the President:

WM. H. TAFT,
Secretary of War.

JANUARY 10, 1906.

JANUARY 11, 1906.

MY DEAR MR. SHONTS: I inclose herewith a license which the President has issued in the Union Oil Company matter. Will you be good enough to bring the matter before the board of directors of the railroad, and authorize the issue of a license in accordance with the last paragraph in the document which the President has signed?

Very respectfully, yours,

WM. H. TAFT.

Hon. T. P. SHONTS,

Chairman Isthmian Canal Commission, Washington, D. C.

ISTHMIAN CANAL AFFAIRS,
OFFICE OF ADMINISTRATION,
Washington, D. C., January 11, 1906.

MY DEAR MR. SECRETARY: We have just received a copy of the revocable license granted by President Roosevelt to the Union Oil Company, of California, and observe that one of the conditions for granting the license is that—

"Oil shall be furnished at any convenient point to be selected by the chief engineer of the Canal Commission along the line of the pipe line in the Zone to the Railroad Company or the Canal Commission at the rate of 90 cents per barrel for the crude oil, if either the Canal Commission or the Railroad Company desires it."

I would urge that this paragraph be changed, as at 90 cents a barrel there is nothing in it for the Commission or the railroad company unless it could be the question of transportation, and this is largely offset by a certain charge resulting from the change of the fireboxes of locomotives, steam shovels, and other similar machines.

The language as used in the license makes a fixed price of 90 cents for oil, regardless of market fluctuations. This language should be changed to read "a maximum of 90 cents a barrel." If the Commission had felt that it was ready to take up the question of using oil as fuel and had advertised for proposals, I am sure we would have received bids at considerably less than 90 cents per barrel, as I have said to the representative of every oil company who has called on me that 90 cents per barrel for crude oil was simply a stand off as against Pocahontas coal at \$4, and that in order to induce us to use oil a much lower price would have to be made.

Very truly, yours,

T. P. SHONTS, *Chairman.*

The SECRETARY OF WAR.

WAR DEPARTMENT,
Washington, January 12, 1906.

MY DEAR MR. SHONTS: I have your note concerning the revocable license granted by President Roosevelt to the Union Oil Company.

You will observe there is no obligation whatever on the part of the United States to take the crude oil at 90 cents a barrel; therefore, should there be other pipe companies upon the Isthmus there is nothing in this contract to prevent you inviting bids and getting a lower rate. In other words, it is unilateral. The contract fixes the maximum at which you can demand oil, and is exactly the same as if it had been changed to read "a maximum of 90 cents a barrel." I send a copy of this letter to the Union Oil Company.

Very sincerely, yours,

WM. H. TAFT.

Hon. T. P. SHONTS,
Chairman Isthmian Canal Commission.

JANUARY 18, 1906.

MY DEAR MR. SECRETARY: I have your letter of the 15th, inclosing one from Mr. Gates, of the Union Oil Company, commenting upon my memorandum to you relative to the use of oil for fuel on the Isthmus.

We have not, ourselves, made comparative tests on the Isthmus as to the relative value of oil for fuel as compared with coal. However, when the matter was up last spring, the best information I could get from representatives of the various oil companies, including the Standard, was that 90-cent oil was equivalent to Pocahontas coal at \$4 per ton.

I recently had a verbal offer for fuel oil delivered on the Isthmus at 75 cents per barrel.

I return to you herewith the letter of Mr. Gates, addressed to you.

Very truly, yours,

_____, *Chairman.*

Hon. WILLIAM H. TAFT,
Secretary of War.

THE ONTARIO,
Washington, D. C., January 13, 1906.

Hon. Wm. H. Taft,
Secretary of War, Washington, D. C.

DEAR SIR: I have the honor to acknowledge receipt of your letter of the 12th instant, inclosing copy of a letter addressed to you by Mr. T. P. Shonts, dated the 11th instant, and your reply thereto, for which I thank you.

It would seem from this correspondence that Mr. Shonts has failed to grasp all the advantages of the offer of the Union Oil Company of California. If you will kindly call his attention to the correspondence from the company, he will see that not only does the company offer its oil to the Government at a price not to exceed 90 cents per barrel, but that this maximum price of 90 cents is in force for the period of ten consecutive years from the date the pipe line is installed.

I desire to say further that 90 cents per barrel for oil is equivalent to coal at \$3.20 per ton of 2,000 pounds, which is at least 25 per cent lower than any other available fuel.

It might be interesting to know whether or not any of the other companies referred to by Mr. Shonts in his letter have agreed in writing, or will agree in writing, to make an offer equal, both in price and continued length of time, to that made by the Union Oil Company of California.

Very respectfully,

R. WOODLAND GATES.

JANUARY 20, 1906.

MY DEAR MR. SHONTS: I have your letter of January 18, returning the letter of Mr. Gates, attorney for the Union Oil Company, commenting upon your memorandum to me relative to the use of oil for fuel on the Isthmus.

I am glad you made your comment, because it leaves no doubt with respect to the construction which the revocable license is to have. As you will see from your records (388-41), I have received a letter from Lindon W. Bates, and yesterday made reply to him, which explain themselves.

Very sincerely, yours,

WM. H. TAFT.

Hon. T. P. Shonts,
Chairman Isthmian Canal Commission.

Resolved, That the Panama Railroad Company concur in the said revocable license granted by the President of the United States to the Union Oil Company, of California, so far as the same concerns lands held by this company upon the Isthmus of Panama.

Resolved, therefore, That a revocable license is hereby granted to the Union Oil Company, of California, to construct, operate, and maintain a pipe line and appurtenances for the transmission and delivery of oil over and across the lands owned or held by this company upon the Isthmus of Panama in accordance with the said license of the President of the United States, and subject to all the terms and conditions in said license expressed; and upon the further condition, with respect to any lands held by private persons as lessees of this company, that said Union Oil Company also obtain permission from such lessee before constructing said pipe line or any appurtenances thereof through or upon said leased lands. Said license to cease upon the revocation or other termination of said license granted by the President of the United States, or at any time at the pleasure of this company.

Resolved, That the executive officers of this company be authorized to execute and deliver any and all documents, permits, and licenses which they may deem necessary or advisable for the carrying into effect of the license hereby granted,^a with the approval by the Secretary of War as representative of the United States of America as a stockholder of this company.

Whereas the President of the United States did, on January 10, 1906, grant to the Union Oil Company of California, a revocable license to construct and maintain a pipe line and appurtenances within the Canal Zone, in the Republic of Panama, and across the lands of the United States within said Zone, upon certain terms and conditions in said license expressed; and

^a As second letter describes.

Whereas by resolutions duly adopted at a meeting of the board of directors of the Panama Railroad Company, held on January 19, 1906, it was resolved to concur in said license and to grant a revocable license to said Union Oil Company of California, in accordance with said license granted by the President of the United States and upon the terms and conditions therein and in said resolutions expressed, and the executive officers of this company were authorized to execute and deliver all documents which they might deem advisable for the purpose of carrying into effect the grant of license by said resolutions expressed, with the approval of the Secretary of War, as representative of the United States of America as stockholder of the company.

Now, therefore, in pursuance of the said resolution, a revocable license is hereby granted to the Union Oil Company of California to construct, operate, and maintain a pipe line and appurtenances for the transmission and delivery of oil over and across the lands owned or held by this company on the Isthmus of Panama in accordance with the said license granted by the President of the United States and subject to all the terms and conditions therein expressed; and upon the further condition, with respect to any lands held by private persons as lessees of this company, that said Union Oil Company also obtain permission from such lessees before constructing said pipe line or any appurtenances thereof through or upon such leased lands.

This license shall cease and all rights of the said Union Oil Company hereunder shall come to an end upon the revocation or other termination of said license granted by the President of the United States or at any time at the pleasure of this company.

[L. S.]

PANAMA RAILROAD COMPANY,
By E. A. DRAKE,
Assistant to the President.

Attest:

T. H. ROSSBOTTOM,
Assistant Secretary.

Approved.

WM. H. TAFT, *Secretary of War.*

THE WHITE HOUSE,
Washington, February 19, 1906.

MY DEAR MR. SECRETARY: The President requests me to ask you for a report on the matter referred to in the inclosed letter from the Collinga Oil and Transportation Company and the National Oil and Transportation Company.

Very truly, yours,

WM. LOEB, Jr.,
Secretary to the President.

HON. W. H. TAFT, *Secretary of War.*

THE WALDORF-ASTORIA,
New York, February 17, 1906.

The PRESIDENT,
Executive Mansion, Washington, D. C.

DEAR SIR: Referring to the copy of franchise hereto attached, granted by you to the Union Oil Company to construct and operate an oil pipe line across the Isthmus of Panama, we ask that you modify the franchise so as to constitute said pipe line a common carrier, the same as the railroad and as the canal will be when completed.

It would be manifestly unfair to accord to any one company practically a monopoly for the transportation of oil across the Isthmus, for the reason that the pipe line will, it is understood, to a great extent occupy the trestles and bridges of the railroad and other Government property, and, furthermore, that it would be unnecessary to construct more than one pipe line with two pumping stations to transport all of the oil that the Union Oil Company can deliver at the Isthmus as well as other companies.

As we understand the situation, the distance across the Isthmus for a pipe line is not more than 20 to 35 miles, while we are pumping in California through a 6-inch pipe line from 10,000 to 12,000 barrels a day, going over an elevation of 1,850 feet and a distance of 112 miles, with eight pumping stations, at an

operating expense not exceeding 6 cents per barrel. Therefore we think that one pipe line across the Isthmus could take care of all of the oil that could be furnished by the Union Oil Company and other companies if constituted a common carrier, and all would get a chance to have their oil transported across the Isthmus and to compete for business on the Atlantic side as well as for the Government business along the line of the canal at competitive prices.

In this connection we beg to state that our pipe lines in California, although built for the purpose of transporting our own oil, are common carriers.

In closing, we beg to suggest that if the Union Oil Company will not agree to a modification of its franchise, allowing its pipe line to be a common carrier, that you exercise the right contained in the franchise to revoke the same, and offer the privilege of constructing a common carrier pipe line across the Isthmus by advertising, as we assure you it will result in a more advantageous arrangement to the public, to the Canal Zone, and to the consumers on the Atlantic coast.

A maximum rate for pumping oil across the Isthmus of from 5 to 8 cents could be established, and we are confident that you could get a bid for operating and constructing a common carrier oil pipe line on this basis, which would be of greater advantage to the oil interests of California, to the Canal Zone, and to consumers on the Atlantic coast than can be had under the present arrangement which has been made with the Union Oil Company in the franchise recently signed and issued by you.

We beg to state that our company has a capitalization of at least \$2,000,000 fully paid, and is well and favorably known on the Pacific coast, as can be testified to by Senators and Representatives in Congress from California, where we are located.

Very respectfully,

THE COLINGA OIL AND TRANSPORTATION CO.
THE NATIONAL OIL AND TRANSPORTATION CO.
By WM. MATSON, *General Manager*.

(Printed copy of franchise referred to in above attached to original, taken from Governor Magoon's testimony before Senate committee, 1087-21, pp. 786-787.)

WAR DEPARTMENT,
Washington, February 26, 1906.

MY DEAR SIR: Inclosed I hand you a communication from the Secretary to the President, together with copy of a letter from the Colinga Oil and Transportation Company and the National Oil and Transportation Company, and beg to inquire if you have any objection to making your line a common carrier?

Very respectfully, yours,

WM. H. TAFT, *Secretary of War*.

R. WOODLAND GATES, Esq.,
Attorney, The Ontario, Washington, D. C.

UNION OIL COMPANY OF CALIFORNIA.
San Francisco, Cal., March 23, 1906.

HON. WILLIAM H. TAFT,
Secretary of War, Washington, D. C.

DEAR SIR: Replying to your communication dated February 26, addressed to our Washington, D. C., attorney, Mr. R. Woodland Gates, and the letter from the Coalinga Oil and Transportation Company and National Oil and Transportation Company therein inclosed, we beg to state that the two companies named were purchased by the Associated Oil Company in June, 1905, but up to within thirty days were operated by the original owners. Mr. Matson is no longer general manager of those companies; the president and vice-president of the Associated Oil Company are now president and vice-president, respectively, of them, and there is no general manager.

The Southern Pacific Railroad Company is heavily interested in the Associated Oil Company, and it is generally understood exerts a controlling influence over its affairs; Mr. E. H. Harriman being personally consulted on important matters of policy. It is a well-recognized fact in this State that the

Standard Oil Company, through the Harriman (Southern Pacific) connection really dominates the Associated Oil Company. We make these statements that you may know the source and object of the attack.

Our company is and always has been an independent concern. It has never entered into any alliance or affiliation with any other oil company, and does not propose to. On the contrary, the object of this pipe line is to enable us to extend the range of our competition to the Atlantic seaboard and Europe, as will appear by the affidavit of the directors herewith inclosed.

In order to hamper us in carrying out our plans, the allies of the Standard Oil Company have made the request that our line be made a common carrier. We have acted promptly and in all respects in good faith in carrying out the terms of the license granted us, and beg to suggest that rather than limit the efficiency of our line you exercise your right and grant the same privilege we have received to any other company that will comply with the same terms and conditions imposed upon us. We can assure you that we will not in any way interfere with any other company entering the field.

We are absolutely of the opinion that the communication sent you by the Coalinga Oil and Transportation Company and National Oil and Transportation Company was not made in good faith, and that they have no intention or desire to lay a pipe line across the Isthmus of Panama; that their motive is to hamper us as far as possible in the execution of our plan to compete for business in the markets of the Atlantic seaboard and Europe.

We wish to thank you for apprising us of their letter. We have expected and anticipate attacks such as it contains, and would be pleased in the event of similar or other attacks if you would supply us with the information at your convenience.

Herewith hand you a letter in reply to the above-mentioned communication from the companies named.

Very respectfully,

JNO. BAKER, Jr.

STATE OF CALIFORNIA, County of Los Angeles, ss:

Lyman Stewart, J. S. Torrance, Giles Kellogg, being duly sworn, each for himself deposes and says:

Firstly. That the directorate of the Union Oil Company of California is composed of eleven directors, constituted as follows: Lyman Stewart, W. L. Stewart, J. S. Torrance, J. H. Adams, F. C. Bolt, W. R. Staats, John Baker, Jr., W. F. Botsford, Frank A. Carbutt, Edwin T. Earl, Giles Kellogg, of which number the subscribers to this affidavit constitute a majority.

Secondly. That certain false and injurious rumors and statements are from time to time receiving publicity and appearing in the public prints to the effect that the Union Oil Company is allied with, owned, or controlled by the Standard Oil Company.

Thirdly. That such a question seems to have arisen in the investigation now being conducted by the Senate of the United States over the Panama Canal Commission.

Fourthly. That this company is now and always has been an absolutely independent corporation and an active and pronounced competitor of all other companies engaged in the oil business.

Fifthly. That this company has now taken up and is prosecuting all branches of the refined and fuel oil business and is preparing to greatly enlarge the scope of its activities by entering into the markets of the world as an independent competitor.

Sixthly. That these rumors and reports are injurious to the business of the company and are apparently being circulated for the purpose of injuring the company.

Seventhly. That the same are absolutely false and unfounded; and

Eighthly. That in order to set at rest all such false rumors and reports, the undersigned subscribers to this affidavit desire, in behalf of the corporation which they represent, the Union Oil Company, of California, a public statement be issued, verified by all the accessible directors of this company, setting forth the fact that this company is now and always has been independent of all corporations engaged in the oil business, that it is not under the dominion, influence or control of any other corporation or organization, and, particularly; that this company has no affiliations of any kind with the Standard Oil Company or any

of its subsidiary corporations, but is an active competitor of said corporation in all the markets which this company has entered, and that this corporation intends as such competitor to extend the field of its operations into additional markets, both in the United States and in foreign countries.

LYMAN STEWART,
J. S. TORRENCE,
GILES KELLOGG,
J. H. ADAMS,
W. F. BOTSFORD,
FRANK A. GARBUTT,
EDWIN T. EARL,
JOHN BAKER, JR.

Subscribed and sworn to before me this 12th day of March, 1906.

[SEAL.]

E. S. DESSEN,
*Notary Public in and for the County of Los Angeles,
State of California.*

Subscribed and sworn to before me this 24th day of March, 1906, by John Baker, Jr.

[SEAL.]

MATTHEW BRADY, *Notary Public.*

UNION OIL COMPANY, OF CALIFORNIA.
San Francisco, Cal., March 24, 1906.

HON. W. H. TAFT,
Secretary of War, Washington, D. C.

DEAR SIR: We have before us a copy of a letter addressed to the President of the United States by the Coalinga Oil and Transportation Company and the National Oil and Transportation Company, dated February 26, 1906, suggesting that our pipe line across the Isthmus be made a common carrier.

Our objections to having imposed upon us the obligations of a common carrier are based upon many grounds, but these hereinafter set forth are so well founded that any one of them should be sufficient to defeat such an attack as is contained in the letter to the President.

In the first place, such a step would be grossly unjust to us. Such a condition was never considered by or suggested to this company when it made its application for the necessary permit to lay the line. The concession from Panama and the permit granted by our Government were both issued without implying the least obligation either in themselves or through the medium of any verbal agreement or discussion. The terms accepted by our company as a condition for the grants were not based upon any such supposition. Our propositions to the Governments and representations made to them were all based upon the understanding that our pipe line was for the use of our company in carrying on its own business of marketing its own oil.

Furthermore, such a condition, if imposed upon us, would be unfair in our competition with others in the oil business. This company is investing its capital in terminal facilities and a pipe line across the Isthmus to the extent of over half a million dollars. Obligations have been paid, or incurred, in relation to water transportation amounting to over \$2,000,000, and further and much larger expenditures for additional water transportation will be made to carry on the business we have outlined; all for the purpose of conducting our own business of selling oil on the Atlantic seaboard and in Europe, as a real competitor with those in the same line of business. We can not see the fairness of permitting our competitors to enjoy all the privileges accorded to us without the expenditure on their part of a single dollar.

Our company does not ask for, nor has it been granted, "practically a monopoly for the transportation of oil across the Isthmus" in any sense, as is apparent from the language of the two concessions. Neither is exclusive in any sense. We know of no reason why any other oil company desiring to establish its own pipe line on the Isthmus can not obtain permits similar to those granted to us.

The pipe line of the Union Oil Company, of California, will not occupy the trestles or bridges so as to preclude the construction over them of other pipe lines. Our line will be 8 inches in diameter; weight, 28 pounds per foot, and it

must be apparent that there is room upon all the trestles and bridges of the Panama Railroad for several such lines without in the least degree interfering with the operation of the railroad. We have not the slightest objection to the construction of such pipe lines, whether they are for the purpose of furnishing oil to the Canal Commission, or for the purpose of transportation of oil from the Pacific to the Atlantic, or from the Atlantic to the Pacific.

Our company has demonstrated on the Pacific coast the value to the consumer and to the community generally of real competition, and has also shown its ability to sustain itself under the severest competition. We unhesitatingly and unqualifiedly assure you that our competition alone on this coast is resulting in the building up of all classes of manufacturing industries heretofore discouraged by the high price of fuel. With the aid of the railroads on this coast the Standard Oil Company and the Associated Oil Company have practically eliminated all competition but ours. The purpose of the pipe line across the Isthmus is to enable us to enter the eastern markets. That we are acting in good faith along these lines is evidenced by the vast expenditures we are making in preparation. The pipe line we are laying will have a capacity of fully ten times the amount of oil that might be required on the Isthmus.

The suggested charge for piping oil is ridiculous. No pipe line could be operated across the Isthmus at from 5 cents to 8 cents per barrel. There has never been such a rate made for such service in the history of the oil business. The conditions on the Isthmus are such that a pipe line will not last to exceed ten years, whereas in this State there are a number of lines in use which have been operated over twenty years and are still in good serviceable condition.

We submit, however, that our principal objection to being a common carrier is the damage that would result to our general business, for we have no knowledge of when we might be called upon to handle the public's business, resulting in the interruption of our own. Such a condition imposed upon us would seriously hamper every feature of our expansion plans and subject us to interminable difficulties and delays and increased expense in reaching the eastern markets. We have canvassed the Atlantic and European markets and are in a position to dispose of all of the oil we can deliver. The real and most important requirement in handling such business is the guaranty to the consumer of a regular supply; unless this is assured the consumer would not be justified in contracting for the purchase of our oil.

The number of different classes of oil which might be offered for transportation would necessitate a large increase in the storage to keep the different oils separate. It would also decrease the capacity of the line, as it would have to be cleaned at considerable expense after each class of oil had been pumped through it. It would seriously hamper deliveries to the Canal Commission should they call upon us for oil as it is needed. In fact, it would practically eliminate our ability to make such deliveries, and consequently our obligation so to do. Should the Canal Commission equip its apparatus on the canal works for the burning of oil, and should we transport through our pipe line different grades of oil, it would, in all probability, cause trouble with the oil burners. The greatest efficiency in burning oil results from the use of a uniform grade, and any changes in this respect would result in considerable loss. We do not suppose that the canal officials would wish their supply of oil at various points along the line of the canal shut off from time to time to permit the intermittent passage through our pipe line of different classes of oil or oil that they had no right to use themselves.

We know that some of the directors of the Associated Oil Company are heavily interested in the development of oil in the Republic of Mexico, where there is now a large production. This foreign product will probably be brought into competition with ours. They would have the advantage in many miles of transportation in reaching the Isthmus, and no further advantage should be given them in their competition with an American corporation.

Our company intends to live up in the highest degree to all the promises it has made to the officials of the United States. There is not the slightest obligation on the part of the Government or the Canal Commission to take any oil from us. The obligation is entirely on us to sell them the oil whenever they desire it, if at all, and during a long period of years and at a very low price. We realize that it is a source of great dissatisfaction among many other oil companies that we should have quoted such favorable terms. It is a matter of public record that our company is the owner of more crude oil territory than any other company in the world, and this assures our ability to meet all the requirements made upon us. If any other company wishes to supply oil to the

Canal Commission there is no obstacle in their way. The Commission can advertise for bids, and if the bids are not as low as our contract calls for, we will supply the oil. We submit, however, as a matter of fairness, that applicants for the pipe lines across the Isthmus should be placed upon the same footing we are, and should be subjected to the same conditions we have met.

However, in closing we wish to say that if other companies do not occupy a position sufficiently strong to justify their guaranteeing to furnish oil for a period of ten years at 90 cents per barrel, and this feature of our proposition is looked upon unfavorably, we are pleased to further verify the real object of our pipe line by consenting to have that portion of our proposition canceled. If such obligation on us was withdrawn, we should be perfectly satisfied to have pipe-line privileges granted to other companies on the same basis as ours, with this clause eliminated. We are frank to say, nevertheless, that our Government would probably sustain considerable financial loss by such a modification.

In conclusion, we wish to reiterate that we are going into the eastern markets to introduce genuine competition with most powerful rivals. We think that our actions along these lines should not be hampered by any such proposed changes as are contained in the letter to the President.

Very respectfully,

JNO. BAKER, Jr.

[Sent to Clarence W. De Knight, attorney, Kellogg Building, city.]

MARCH 31, 1906.

GENTLEMEN: I beg to say that some time ago I had a conversation with a representative of yours in reference to the making of the Union Oil Company a common carrier of oil through the pipe line which it proposes to construct across the Isthmus of Panama. I have conferred with a representative of the Union Oil Company as to whether it would be practicable for them to consent to this arrangement, and have had correspondence with them which satisfies me that their use of the pipe line they propose to erect, and for the erection of which they now have a revocable license, would be inconsistent with their offering it for use by the public.

Your representative, Matson, I think, was his name, who called on me then inquired whether you would be permitted to construct a pipe line across the Isthmus to be used by the public at rates to be regulated by the Secretary of War or the governor of the Zone. I have submitted this matter to the President in Cabinet, and am authorized to say that should you make an application exactly similar to that made by the Union Oil Company you will be granted exactly the same privilege as the Union Oil Company for the construction of a pipe line, and no objection will be made, if you desire it, to the use by the public of your line as a common carrier at rates which will be fixed by the Secretary of War. I understood your representative to say that this would be what you desire, and I therefore advise you accordingly.

Very respectfully, yours,

WM. H. TAFT,
Secretary of War.

The COLINGA OIL AND TRANSPORTATION COMPANY.
The NATIONAL OIL AND TRANSPORTATION COMPANY.

[Inclosure—Exhibit 1.]

OCTOBER 22, 1904.

Admiral WALKER,

President Isthmian Canal Commission, Washington, D. C.

DEAR SIR: I have the honor to inclose, for convenience of consideration, several copies of a brief digest of the oil pipe line project contemplated under my application, for which careful studies, estimates, and arrangements have been made.

A competitive opportunity is sought on the Isthmus to store, sell, and conveniently deliver this commodity, subject to the following primary conditions:

First. That the installation for which permission is granted shall be subject to inspection and approval by the Commission.

Second. That the permit does not give any property titles and does not subject to inspection and approval by the Commission.

Third. That the permit does not give any property titles and does not authorize any invasion of private property or rights.

Fourth. That the permit shall grant no rights precluding the installation of other pipe lines for a similar purpose.

Very truly, yours,

JANUARY 11, 1906.

The SECRETARY OF WAR,
Washington, D. C.

DEAR SIR: May the writer venture to call your attention to his letter sent on October 22, 1904, to the president of the Isthmian Canal Commission, offering to construct an oil pipe line and requesting a competitive opportunity to bid for the necessary right of way across the Isthmus of Panama? This formal letter first suggested a pipe line.

That subsequently, on September 19, 1905, there was sent to you the "System and projects of Lindon W. Bates" for the Panama Canal, in which, pages 115 to 118, all the data concerning the utility of oil and the cost and methods of installation were placed at the disposition of those charged with constructing the canal.

Learning in the daily press that it is proposed to call for public competitive bids for the nonexclusive permit to construct such a pipe line, the writer begs to be advised as to when such will be received.

Very respectfully,

LINDON W. BATES.

JANUARY 18, 1906.

MY DEAR SIR: The Union Oil Company, of California, applied to me for a revocable license to lay an oil pipe line across the Canal Zone from the Panama line on the one hand to the Colon line on the other. I declined to consider the matter until they had obtained permission from the authorities of the Republic of Panama to enter the Republic at the Panama side and to leave it at Colon, and then after consulting with the chief engineer and Mr. Shonts, chairman of the Canal Commission, I submitted the matter to the President in Cabinet, and it was decided to be proper under the circumstances to grant to the Union Oil Company a revocable license to construct a pipe line across the Canal Zone on condition:

First. That its position should be determined by the chief engineer.

Second. That any part of it should be removed at any time by direction of the chief engineer.

Third. That it all should be removed at any time the Canal Commission chose to have it removed.

Fourth. That while it was maintained it should pay in advance, after its construction, on or before the 1st of August, \$500 per month.

Fifth. That it should furnish the oil conveyed in the pipes at a maximum price of 90 cents per barrel to the Government whenever the Government should desire it.

Sixth. That the license should be nonexclusive.

It is intended to grant similar licenses to other companies who may apply on similar conditions. There is no agreement on the part of the Government to take any oil from this company, and there is full opportunity for the Government, should it desire to use the oil, to invite competition with respect to the price and manner of furnishing. At present the Government engines and locomotives are not arranged with a view to the use of oil, but the chief engineer advises me that in the course of six months or a year it is quite possible that it would be thought wise to make the changes. Whenever it is thought wise, competition at the price at which the oil may be furnished will be invited by advertisement.

Very sincerely, yours,

WM. H. TAFT,
Secretary of War.

LINDON W. BATES, Esq.,
111 Broadway, New York, N. Y.

TO ACCOMPANY STATEMENT OF HON. WILLIAM H. TAFT, SECRETARY OF WAR, BEFORE COMMITTEE ON INTEROCEANIC CANALS OF THE UNITED STATES SENATE.

ADDITIONAL CORRESPONDENCE BETWEEN MR. WALLACE AND THE SECRETARY OF WAR, MR. WALLACE AND ADMIRAL WALKER, E. A. DRAKE, AND T. P. SHONTS.

ISTHMIAN CANAL COMMISSION,
Panama, December 20, 1904.

Hon. Wm. H. Taft,
Secretary of War, Washington, D. C.

MY DEAR MR. SECRETARY: If you will kindly pardon me for doing so I would like to make the personal suggestion that if the President and yourself should decide at any time to reduce the Commission to three members, resident on the Isthmus, the governor of the Zone and the chief engineer should be members of this Commission ex officio.

An organization of this kind, with the chairman of the Commission resident in Washington to look after general and departmental matters, would no doubt work satisfactorily and be much less cumbersome than the present one.

Of course this would not prevent the employment of eminent engineers in a consulting capacity, to such an extent as might be deemed desirable.

Very truly, yours,

JOHN F. WALLACE,
Chief Engineer.

[Personal.]

ISTHMIAN CANAL COMMISSION,
Panama, February 23, 1905.

Hon. WILLIAM H. TAFT,
Secretary of War, Washington, D. C.

MY DEAR MR. SECRETARY: Your letter was handed me by Mr. Bristow.

While Mr. Bristow was here I made every possible effort to post him as to the situation on the Isthmus from a practical standpoint. I took particular pains to explain to him my general ideas as to the operation of the Panama Railroad and Steamship Line; its connection with commercial traffic, as well as its relations to the construction of the canal.

In regard to canal matters, I presume by the time this reaches you the Isthmian Canal Commission will have acted upon the recommendations contained in the report of the engineering committee, consisting of Professor Burr, Mr. Parsons, and General Davis, which was recently in session for three weeks on the Isthmus. I placed at the disposal of this committee the results of my studies during the eight months I have held the position of chief engineer of this work, as contained in my report to the Commission dated February 1.

If the Commission shall have taken favorable action on the engineering committee's report by the time you receive this letter, the principal engineering questions requiring expert council will have been settled. Those that remain for further consideration will be connected with the details of the Gamboa dam and spillway, and the utilization of this dam for the generation of electrical power; but all of the problems in reference to the general plan and design of the canal itself will have been disposed of, except those which will of necessity have to be decided by the chief engineer on the ground from time to time as they may arise.

These problems will be of such a nature that it should be left to the chief engineer to decide whether the cases require immediate settlement and solution on the ground, or whether they are of such importance that he should refer them to the expert consideration of a body of consulting engineers.

This council, however, should be advisory and not dictatorial, and the advisory board should consist of an even number of men, either four or six, of which the chief engineer should be the head, giving him the deciding voice in case of difference of opinion.

I think you will see the necessity for this, as the responsibility for all engineering questions will ultimately have to rest with the chief engineer.

In passing I desire to say that I do not shirk these responsibilities provided I have the authority and power to execute them in my own way, although I desire to have placed at my disposal the wisest and best professional counsel.

It would not be necessary for this advisory body of engineers to give their entire time to the work. You will find that the best service will be obtained from men whose ability and reputation are such that they are in constant demand. The judgment of such men will be much more valuable to me than that of men of less experience. An instance of this is the fact that the Commissioners who had been of the most service to the Government in the settlement of large questions have been the men who have had the most numerous outside engagements, and who have given the least of their personal time to the business of the Commission. These men should not be detail men in any sense, but accustomed to look at engineering questions in a broad way and decide matters on principle.

It would be very unfortunate if a commission should be stationed on the ground at Panama charged with the direction of the work, and the position would be an unbearable one to any chief engineer who had to remain here and attempt to execute the work under such direction.

If the Commission is retained in its present form, the governor of the Zone and the chief engineer, resident on the Isthmus, should both be members thereof, with a chairman acting in an administrative capacity at Washington, who should be the line of communication from the

Commission to the Secretary of War, and be charged with the executive business connected with the other departments of the Government having general control over the purchasing of and contracting for provisions and supplies and the miscellaneous business connected with the work, which would necessarily have to be transacted in the United States.

The engineering members of the Commission could then constitute an advisory board, to whom could be referred such engineering questions of a general or special nature as the chief engineer might consider necessary from time to time, and who could meet in council with him alternately at Washington or on the Isthmus, as occasion or convenience might require.

As you know, I have been very loath to express my opinion in regard to matters connected with the organization of the Commission; but Congress will have adjourned by the time you receive this letter, which is being written on the supposition that no radical change has been made in existing legislation and that it will remain for yourself and the President to determine in what way you will organize the work of the present Commission by Executive action in order to obtain more satisfactory results. I only do so in this case for the reason that I feel that my relations to this work are important enough to justify at least the consideration of my views by yourself and the President. This letter will probably reach you about the time the matter will be up for consideration.

I hope you will pardon the length at which I have addressed you.

Very truly, yours,

JOHN F. WALLACE,
Chief Engineer.

[Personal.]

WAR DEPARTMENT,
ISTHMIAN CANAL COMMISSION,
Panama, March 15, 1905.

HON. WILLIAM H. TAFT,
Secretary of War, Washington, D. C.

MY DEAR MR. SECRETARY: I have heretofore refrained from writing you direct on any matters connected with this work, except in direct answer to your communications.

I have seen and heard a great deal lately indicating that the President was considering the appointment of a hundred thousand dollar man to take charge of the construction of the Panama Canal and reside in Washington, and have also had it intimated by personal friends that Mr. Burt, formerly president of the Union Pacific Railroad, Mr. Felton, president of the Chicago and Alton, Mr. Loree, formerly president of the Rock Island, and Mr. Shontz, have all been suggested and pushed for this position.

I am personally acquainted with three of these men, and know the other well through mutual friends and acquaintances. Three of them are my juniors, both in age and professional attainments, and of the three there is only one with whom there would be the slightest possibility of my working in harmony.

My professional instincts and patriotism have induced me to sacrifice the benefits of a pleasant home, a lucrative position with the possi-

bility of large promotions before it, friends, and the various comforts of life to live in this God-forsaken country, and to assist you and our President in carrying out this great work. If I am furnished with the men and material I have asked for, and my action is not nullified by opposing influences in the United States, this work will be completed, well, quickly, and economically, and I fail to see the necessity of a high-priced figurehead in Washington. All that is needed there, other than the Honorable Secretary of War, who is the head of the department under which this work is being conducted, is the necessary official machinery to provide men and material it may be necessary to secure from the States and to conduct the routine departmental work.

If it is absolutely necessary to have a one hundred thousand dollar man in Washington, I might possibly be induced to sacrifice some of my prospects here and accept the situation, but I do not ask it, am not after it, and prefer to be on the firing line, provided I receive proper support, and an impossible situation is not created at Washington.

I hope you will not consider me presumptive if I respectfully ask that I be granted a personal interview before any radical change is decided upon in the governmental organization which would affect me unfavorably.

I am not requesting additional emoluments of any nature whatever, but simply that no condition of affairs be created which will unnecessarily interfere with my efficiency here.

Yours, respectfully,

JOHN F. WALLACE.

ISTHMIAN CANAL COMMISSION,
Panama, March 21, 1905.

Hon. WM. H. TAFT,
Secretary of War, Washington, D. C.

SIR: I have received a cablegram from Mr. Drake, vice-president of the Panama Railroad, announcing my election as general superintendent of that corporation on the Isthmus.

Not having received any official intimation of a probable step of this kind from the Commission, which is the source of my authority and under whose direction I act, I was naturally at a loss to know what action to take in the premises.

Immediately upon receipt of Mr. Drake's cablegram I notified Admiral Walker by cable, but, having received no reply or instructions from him, I consider it both my privilege and my duty to address you on the subject, and hope you and Admiral Walker will pardon me if I have overstepped the bounds of propriety or official etiquette in doing so.

While under ordinary circumstances I would feel it my duty to decline to assume charge of the Panama Railroad on the Isthmus as general superintendent, the present circumstances are such and the situation here is so critical that I feel it my duty to do so in the interest of the economical construction of the canal.

The situation to-day on the Panama Railroad is that it is overburdened with a larger amount of both commercial and Government business than it is able to handle with its existing organization and equipment.

That it will be impossible for any management to satisfactorily handle this business without complaints upon the part of the commercial

interests is self-evident, particularly when comparison is made with the handling of the business under the normal conditions which existed before the transportation of a large amount of Government supplies and material was injected into the problem.

This situation can only be rectified by time and the prompt provision of additional equipment and other facilities, recommendations covering which you will find contained in my various reports to the Isthmian Canal Commission and in the memorandum report which I furnished Mr. Bristow by your direction.

I find that the powers and authority heretofore granted to and exercised by the general superintendent of the Panama Railroad are not sufficient and ample to efficiently and economically control the situation here, he being required to report to and receive authority from the New York office on the most trivial matters, and that it will be impracticable to satisfactorily manage the railroad under these conditions.

In view of the responsible positions I have held in the United States in railroad circles, it would be beneath my dignity to act under the title of general superintendent of the Panama Railroad, and report to and receive instructions from the officials operating the Panama Railroad and Steamship Line in New York, the vice-president and controlling authority of which has never been on the Isthmus, and the general manager, while a man of great capabilities and reputation and an estimable gentleman in every way, for whom I have the highest respect, has only visited the Isthmus twice for short periods of time during his connection with the company.

In view of the fact that the business of the Panama Railroad in the handling of both Government and commercial freight will probably soon be five times its former capacity, and in view of the further fact that the use of the Panama Railroad in connection with the excavation of Culebra cut will cause the use of that property inside of two or three years to amount to at least twenty times its present volume, you can plainly see how impracticable it will be for the person controlling the construction of the canal and the operation of the Panama Railroad on the Isthmus (which certainly should be one) to be required to report to officials in the city of New York, who do not occupy positions of responsibility in regard to the work to be performed on the Isthmus, and who naturally will not be in a position to criticise or direct the action of the person in control here.

It also does not seem equitable that the title of the person in control on the Isthmus should be one of less dignity, or taking with it less authority, than that exercised by the highest managing officer in New York.

While the Panama Steamship Company was necessarily part and parcel of the Panama Railroad Company, was a necessary adjunct in the securing of business for the railroad, and it was perfectly proper for the railroad to participate in the expenses of the steamship line which was its principal feeder and support during that period when the only motive was the operation of the property as a commercial enterprise for the benefit of its stockholders, there is no necessity, under the changed conditions, for a continuance of this policy; and there is no reason why the operation and maintenance of the steamship line, together with its receipts and disbursements, can not be primarily separated from the operation of the Panama Railroad Company with its receipts and disbursements, and each part of the business be con-

ducted under a separate management, and if it is deemed advisable and policy to continue the higher officials of the railroad and steamship company in New York as at present, their duties and control should be confined to the steamship line.

There is no reason why reports from the Panama Railroad after the close of the present fiscal year should go through or be handled by that office.

There is no reason why you could not cause to be elected as president of the railroad company the chairman of the Isthmian Canal Commission, or some member thereof, as you might deem fit, or place this matter under one of your own bureaus, allowing the vice-president and manager of the steamship company and the railroad company to make separate reports to this head as long as you desire to continue the present railroad organization.

While I will temporarily assume charge of the railroad, I hope you will see your way clear to give favorable consideration to the foregoing and that the matter will be adjusted on these or some similar lines.

I do not address you, Mr. Secretary, on this matter with any other motive than that of securing such an organization and arrangement of the railroad matters as will be clean-cut and businesslike, with a proper adjustment of authority and responsibility, to the end that this work may be conducted in an economical and efficient manner and to the credit of yourself and the Administration.

Very respectfully,

JOHN F. WALLACE,
Chief Engineer.

NEW YORK, *March 17, 1905.*

Admiral J. G. WALKER,
*Chairman Isthmian Canal Commission,
Washington, D. C.*

DEAR SIR: I have your telegram of to-day, reading:

We have received following cablegram from Panama, which we do not understand. Can you explain? Drake cable appointment General Superintendent Panama Railroad Company, have received no information or instructions from you in regard to this. Wallace.

As you know, Mr. Wallace has been advising and urging that there be undertaken at once radical increases in our equipment and in reconstruction work, and in general conference between Secretary Taft and Mr. Cromwell recently, the Secretary heartily approved of the idea of having Mr. Wallace take charge at once instead of waiting, and desired that this be done. Knowing that this was the desire of all of you, we acted on it at our executive committee meeting of the 14th instant, and appointed Mr. Wallace so that he could take charge immediately.

In the same manner we have to-day acted on your letter of March 16, inclosing Mr. Wallace's recommendation for the practical double tracking of the road, and unanimously recommended to the board of directors that this be done. At the meeting next Thursday no doubt this will be officially ratified. In the meanwhile the committee requested me to gather the material to prepare specifications so that no time will be lost.

I have just wired you as follows:

Telegram received. Notice of appointment to Wallace in accordance with executive committee action Tuesday. Letter of explanation goes to you by to-night's mail.

Truly, yours,

E. O. DRAKE,
Vice-President.

[Personal.]

ISTHMIAN CANAL COMMISSION,
Panama, March 23, 1905.

Mr. E. A. DRAKE,
*Vice-President Panama Railroad,
24 State Street, New York.*

MY DEAR MR. DRAKE: I am just in receipt of a letter dated March 8 from Admiral Walker, transmitting three letters from you under date of March 4 and one from Mr. Paine under date of March 8, 1905, in regard to rates of pay of laborers. I very much appreciate what you say and will take particular pains to see that there is no disturbance in the Panama Railroad work.

By the way, I have had a rather extensive acquaintance with the new general superintendent of the Panama Railroad, and believe that by cooperating with him fully I can secure satisfactory results.

I am just as anxious to get the new rail laid on the Panama Railroad tracks as he is, and I am fully as anxious that there should be no congestion of freight traffic.

If you will kindly instruct him to confer freely with the chief engineer of the Isthmian Canal Commission at all times, I think we will have no difficulty in handling the matter satisfactorily.

I have had several conversations with him already since his appointment, and while he is rather inclined to lean too much toward the interests of the Panama Railroad Company, which I presume is due to his former experience as a railroad manager, still I feel that we will get along very satisfactorily and that the interests of both parties will be properly conserved.

Kindly excuse the odor of humor in this letter, provided you can detect any.

Very truly, yours,

JOHN F. WALLACE,
Chief Engineer.

ISTHMIAN CANAL COMMISSION,
Panama, March 24, 1905.

Rear-Admiral JOHN G. WALKER, U. S. N.,
*Chairman Isthmian Canal Commission,
Washington, D. C.*

SIR: If the Commission have in mind ordering me to Washington any time in the near future, in order to assist in the letting of important contracts or to confer on other matters, I hope the time will be so arranged that I can be there during the month of May or June, either at the commencement or end of my trip.

In May the International Engineering Railway Congress meets in Washington. Before I entered the service of the Commission I

assumed the obligation of preparing one of the important papers which will be presented at this convention, and while I would not go to the States for this purpose alone, if it will fit in without interference with my duties as chief engineer of the Isthmian Canal Commission it will of course be agreeable for me to do so.

I would also like to attend this convention in the interest of the Isthmian Canal Commission, as there will be exhibited in Washington at that time almost every article in the way of railway and construction appliances, and I would be given an opportunity to meet and confer with the best experts, not only from America, but from all over the world, in regard to matters of this kind.

As the principal part of the work here is more or less a railroad proposition, and the principal machinery will be steam shovels, excavators, cranes, locomotives, cars, track, and various railroad and excavating appliances, this is an opportunity that, from the standpoint of the chief engineer of the Isthmian Canal Commission, should not be missed.

I would also like to spend several days during this exposition in having Major Gallagher, or whoever is to be the purchasing agent of the Commission, go over the exhibits with me, so that I can explain to him the difference between the quality and efficiency of the various appliances and materials, as you can appreciate how we will be hampered by having the head of our purchasing department and the clerks under him entirely ignorant of the relative degrees of quality and efficiency of the machinery which will be needed in this work.

I will also desire in connection with my business trip at that time to take my annual vacation. I had first thought of eliminating this this year, but the effects of the climate and the extraordinary amount of work thrown upon me, due to organization matters, is commencing to wear, and I feel that I should not go through another summer here without taking sufficient time in the States to thoroughly recuperate, so that I will be in the best possible physical condition to push the work for the following year upon my return. I also find that the probabilities are the condition of the work will be in such shape that I can be better spared from the Isthmus during May or June than either earlier or later.

In case, however, anything should happen that my presence might be desired in Washington at an earlier date, I should desire at least two weeks' notice, so that I will have sufficient time to leave matters in proper shape during my absence.

Very respectfully,

JOHN F. WALLACE
Chief Engineer.

HOTEL MARIE ANTOINETTE,
New York, June 23, 1905.

HON. WM. H. TAFT,
Secretary of War, Washington, D. C.

MY DEAR MR. SECRETARY: I arrived in New York late yesterday evening. Mr. Cromwell called this morning and advised me that he had been instructed by you to say to me that you preferred I should remain in New York and await your arrival here for an interview Sunday, instead of my going to Washington, as I had originally intended.

Consequently I sent you the following telegram to confirm the engagement made by Mr. Cromwell:

In accordance with instructions from you through Cromwell, will remain in New York to meet you Sunday at such time and place as you desire.

I await your pleasure, as it may be expressed either direct or through Mr. Cromwell, as to time and place of meeting.

I am stopping at the Hotel Marie Antoinette, where I can be reached at any time.

Very truly, yours,

JOHN F. WALLACE,
Chief Engineer.

ISTHMIAN CANAL COMMISSION,
New York, June 26, 1905.

The PRESIDENT,
White House, Washington, D. C.
(Through the Secretary of War.)

SIR: I have the honor to hereby respectfully tender my resignation as member of the Isthmian Canal Commission, to take effect at such time as may suit your pleasure and convenience.

Very respectfully,

JOHN F. WALLACE,
Member Isthmian Canal Commission.

[Personal and confidential.]

ISTHMIAN CANAL COMMISSION,
New York, June 26, 1905.

Mr. T. P. SHONTS,
Chairman, Isthmian Canal Commission,
New York City.

MY DEAR MR. SHONTS: I have had confidential advices that the Chicago Record-Herald intends to publish an article to-morrow morning stating that the President had found things unsatisfactory on the Isthmus and had requested my resignation.

I of course can not feel but that this is being done to injure me and is being instigated by some one.

If you can bring any influence to bear in any direction to prevent an act which will lead to results that no one can foresee, and which will be deplorable to our mutual friends connected with the Administration, you will certainly be doing a wise act and a kind deed if you can head it off.

While I desire to leave matters in the most satisfactory shape for yourself and the Administration, I of course can not let any statement of this character go unchallenged, and I think that all our friends connected with the canal work will realize that no good and much injury will be done the cause by an article of this nature. It can certainly benefit no one.

Confidentially I desire to tell you that I sent my formal resignation from all the positions I hold in connection with the work to-day, and that I have absolutely refrained from any statements to the press, as

I thought that anything that should go to the press should be after mutual agreement and consideration among those interested.

A little prudence at this time upon the part of all of us may prevent a most unpleasant situation.

Very truly, yours,

J. F. W.

NEW YORK, *June 27, 1905.*

MR. JOHN F. WALLACE, *New York.*

MY DEAR MR. WALLACE: I acknowledge your two favors of yesterday, one of which I received yesterday afternoon and the other this morning.

When I reached New York Sunday morning, I went as usual to my brother-in-law's apartments at the Waldorf, and while there received word from Secretary Taft to call upon him at the Manhattan.

I immediately went there; saw Secretary Taft and Mr. Cromwell; was told of their conference with you and its results. As the Secretary had other parties with him and was taking the 1 o'clock train, I, at his request, accompanied him part of the way that he might inform me of his views upon the situation thus created.

I can not tell you how distressed and surprised I was at this turn of affairs.

I need not say that I most fully reciprocate your expressions of cordiality and good will, and the only consolation in the severance of our official relations is the fact to which you so kindly allude—our personal friendship and the complete harmony of our cooperation in the work up to this point.

As you say, the subject is relieved entirely of the personal element, there being not the least friction between the members of the Commission, but I would not be just to myself (especially as I was influenced in accepting the chairmanship by the assurance that you would discharge the important duties of constructive engineer) if I did not say that I can hardly agree that you had the right to make other engagements before we had carried out the programme agreed upon and which you so heartily approved of.

With regards, I am, sincerely yours,

T. P. SHONTS.

ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Friday, April 20, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Hopkins, Ankeny, Morgan, Taliaferro, and Simmons.

Present, also, Maj. Gen. George W. Davis, U. S. Army, retired.

STATEMENT OF HON. WILLIAM H. TAFT—Continued.

The CHAIRMAN. Mr. Secretary, as we have all before us the statement which you have made to the committee during the past two days, I think we are ready to proceed with the questioning. Senator Morgan, do you wish to take up the questions with the Secretary this morning first?

Senator MORGAN. Yes, sir.

The CHAIRMAN. Please proceed, then. We are all ready.

Secretary TAFT. May I introduce something that I omitted from my statement?

Senator MORGAN. Of course; or make any statement that you desire to make, Mr. Secretary.

Secretary TAFT. This is something that I omitted. A clause of this kind occurs on page 2400 of the evidence, the report of the Isthmian Canal Commission of 1904, printed in connection with the testimony of General Davis. [Reading:]

"An important question of policy is yet to be determined. If the Isthmian Canal Commission are not bound by any restriction of Congress as to where they shall purchase machinery, material, and supplies, then it would seem to be their duty to construct the canal as cheaply as possible, and so to buy what they need where they can get it cheapest. This, however, is certain to produce, every time that a large contract is awarded to a foreign manufacturer or dealer, an outcry on the part of the American unsuccessful competitors. If Congress approves the policy of favoring American manufactures and dealers, even if it increases the cost of the construction of the canal, then it seems to me only just that it should declare this policy by law and lay down a rule which the Commission can easily follow."

It is entirely natural that almost everything which is bought should be bought in the United States, provided there is no great discrepancy

in the matter of value—I mean, for convenience. Foreign manufacturers do not come in here for contracts unless the profit is considerable; and the advertising is not so general in Europe as it is in this country. But we are constantly confronted with complaints, every time that a foreign manufacturer puts his goods in competition, that we ought to favor American dealers. It should be one way or the other.

Either we ought to limit our bids received to American manufacturers and American merchants who can furnish supplies, or else we ought to make the competition general. My understanding is that it is our duty in conducting affairs here to build this canal as cheaply as we can; and therefore that if Congress says nothing on the subject, that we ought to invite as broad and wide competition as possible. That is the policy that, so far as I have control of the matter, I expect to follow, unless Congress shall relieve the persons who are responsible from that responsibility by laying down a different rule. I omitted to put this in, but it is a very important part of the policy to be pursued, and I suggest to the committee that the question be considered, and if it is thought wise to do nothing, then we understand that the decision is that we are to pursue the course which we have already laid down.

Senator TALLIAFERRO. That is, to buy the goods where they can be bought the cheapest?

Secretary TAFT. Of course other considerations may enter into the matter. For instance, in the case of the purchase of the steamships there was the question whether we could sail them under the American flag; and it was thought that, in addition to the other advantages of those steamers, the fact that they were under the American flag was a consideration which justified us in buying them.

Senator TALLIAFERRO. I would put it this way: Other things being equal, the policy would be to buy where you could buy the cheapest.

Secretary TAFT. Yes, sir. That is all I desire to add.

Senator MORGAN. It would be practicable, I suppose, to authorize the purchase of American material and manufactures in preference to foreign productions, materials, and manufactures at a rate of discount equal to the percentage of the tariff?

Secretary TAFT. Well, I am not a tariff expert. I do not know how that would work.

Senator MORGAN. I am not either, and that is the reason I think I understand it. [Laughter.]

Senator DRYDEN. I suppose the simplest way would be to regulate it by the question of price and cost to the Government, and of course it would be necessary to take into consideration the facility and rapidity of delivery of the goods. That is a very important matter.

Secretary TAFT. Yes, sir; it is, and the convenience of getting them.

Senator DRYDEN. Yes.

Secretary TAFT. The natural tendency would be, even if you adopted no rule, to take American goods.

Senator DRYDEN. Naturally.

Secretary TAFT. That has been the result, although we have followed generally the rule which I stated. I think about 95 per cent of all that is bought has been bought in the United States. But there are some particular contracts that will invite the attention of

foreign governments. I know that, because I am in receipt of communications through the State Department from the ambassadors of the various countries, inquiring as to the form of the advertisement and the bids and when the bids are to be opened.

There is an important letting of bids to be made in the course of a few days—the bids for dredges. I know that the Dutch are making an effort to compete, and I have been advised that the English are. Of course the question of delivery, the question of the probability of prompt delivery, and other matters of that sort might lean the person selecting the bid toward the American bidder, even though he might not be the lowest bidder; but if there was a large difference I am quite sure that the policy would be to accept the foreign bidder, and that is sure to bring to the War Department a great number of communications on the subject in which the statement is made that if we are spending millions of dollars down there we ought to spend it for the benefit of our own citizens.

The CHAIRMAN. We have had some such communications here in regard to this matter. [Laughter.]

Senator DRYDEN. Well, I suppose that within reasonable limits you would favor that policy, naturally?

Secretary TAFT. Of course I would rather have the American get the contract than somebody else, if the American would furnish the goods for the same price.

Senator DRYDEN. Yes.

Secretary TAFT. But the question here is of the duty of an Executive upon whose conduct in that respect there is no limitation.

Senator DRYDEN. Would you prefer to have the matter stand as it is without any action of Congress, or have Congress legislate distinctly upon that point?

Secretary TAFT. I would much prefer to have Congress legislate distinctly.

Senator HOPKINS. What class of goods, or what class of machinery, do you find that the foreigners can furnish cheaper than the Americans?

Secretary TAFT. I am not familiar, Senator, with the prices; but I should think that in the case of dredges, probably, the foreigners could furnish them at a less rate; though it is by no means certain that the dredges which they furnish would be the best dredges. Of course the American facility for getting good machinery, and machinery that will work "up-to-date," so to speak, is so great that it is quite possible that with respect to that class of goods they would be entitled to the award, at any rate.

Senator HOPKINS. The dredges that you use down there are the character of dredges that we find in use in the United States?

Secretary TAFT. Yes, sir.

Senator HOPKINS. There is no special type that you are having manufactured?

Secretary TAFT. I think not. I think there are some general specifications. I have not examined them with care.

Cement is a very important item. We shall have to use millions of barrels of cement, especially if the lock canal is adopted as the type. We have already, if I recall, purchased some foreign cement, on the ground that we could save \$7,000 in the particular contract which we were making.

Senator MORGAN. About 300,000 barrels have been purchased, as I remember the figures.

The CHAIRMAN. We have letters here to that effect, that there has been a very great difference in the cost of foreign cement and the cost of domestic cement.

Secretary TAFT. Yes, sir; but there are very great cement interests in Kansas——

The CHAIRMAN. And in different parts of this country.

Secretary TAFT. And along the Mississippi Valley.

The CHAIRMAN. And the cement people are to come here on Thursday next and state their case to the committee. They have been invited to appear here at 10.30 next Thursday.

Secretary TAFT. Yes.

Senator HOPKINS. Is it not important in purchasing the cement that you shall use on the Isthmus that, if possible, you get it from the same manufacturers, so as to have uniformity in the cement?

Secretary TAFT. I have no doubt uniformity is very important, but I understand—though doubtless members of the committee know more about that than I do—that Portland cement is made on a particular formula, and while of course it varies as it is furnished by different manufacturers, that if it is good Portland cement it will all unite with other good Portland cement. But I do not know about that.

Senator MORGAN. Portland cement is made on a chemical formula, from which no variation is permitted by builders and architects, men who use it for permanent works, beyond 5 per cent from that formula. It makes no difference where you get the materials; if you can assemble them together, you get Portland cement; and the variation is only between the maximum of perfection and 5 per cent below that. That is all that is allowed.

While we are on that subject, I would like to mention this, and I do not do it for the purpose of advertising my State at all: There are two bands of chalk, like the Dover chalk, the same stuff exactly, formed in the same way and under the same circumstances, on the margin of the sea from the framework of a little insect called globigerina, I believe it is, that has perished in untold and countless myriads along the coasts of ancient seas, and has taken up certain qualities of aluminum and silex from the inwash of the fresh waters when these seas were removed.

These two belts in Alabama range from southwest Georgia through to Columbus, Miss., the first one, the innermost one. It is about, probably, 200 miles long, or maybe more. It is an average of 10 miles wide. Its depth nobody knows, but it is thousands of feet deep. Parallel to that another bed of the same sort, which was located on the margin of the sea, has been thrown off, the black belt, as we call it, the cretaceous formation, and runs through St. Stephens, the ancient capital of the State, within 80 miles or 75 miles of Mobile.

That belt is about 75 or 80 miles long, and about of equal depth and equal width and probably of equal chemical properties. Those two belts are cut through by the Warrior River, the Tombigbee, and the Alabama River, and over in Georgia by the Chattahoochee, furnishing navigation out to the coast. Lying across all of them are the great coal fields of Alabama. Coal is a necessary element in the pro-

duction of this cement. So that that will be necessarily the field from which cement will be derived, because it is the nearest and the most perfectly pure, I will call it—adjusted in its chemical elements to the production of this stone, without any intervening material.

I look forward to that, as Mr. Hanna looked forward to it when he was living, as being the great source of cement supply for this work. But on looking at a piece of this material that is bored out of what is called the "indurated clay" at Gatun, that Mr. Bates showed us here, I suspected—I might say I came to the conclusion—that that material is identical with the chalk bluffs of Dover and those belts that I have described in Alabama. I have asked General Hains to have that material sent here for chemical analysis, and also a similar material, but evidently different in some of its chemical components, that has been taken out of the Culebra Heights, upon which water has a very different effect from what it has upon the material taken out at Gatun.

At Gatun water seems to have the hardening effect that it has upon Portland cement. On the same material in appearance taken out at Culebra, you put it into a bowl of water, and it dissolves, like sugar or salt, showing the chemical difference between the two. I have asked General Hains, and he has already telegraphed to the Isthmus to get specimens sent here for analysis. That ought to have been done as a preliminary start of this whole business. If it turns out that at Gatun this bed is the Dover chalk, then that is worth millions and millions of dollars to the people of the United States, because then you have got nothing to do but to import the coal—dust coal, if you please, that you can get from either coast—burn it on the ground, and use it as you burn it.

I insist that this work has been hurried too much in every respect, and by everybody. We are hurrying it too much to-day. We do not know the facts. I have a strong conviction that when that chemical analysis is made here in the mint and in the public works at Washington and in the Geological Survey and, as I hope, by the great chemist who is the authority on chemistry at the University of Virginia also, Doctor Mallett, that it will turn out that we have got all the resources of cement that we want right at Gatun. That would be a controlling element in the decision of this question between these types of canal. That is evident. And that can be done and will be done within ten or fifteen days. General Hains has already cabled to the Isthmus to Mr. Shonts to have these specimens sent up here for chemical analysis; and how can we afford to pass by a question like that without having a chemical analysis of that stuff?

There is another trouble about this matter. There is not an engineer who has testified before this body—not one—who has pretended to give the topography of that part of the valley of the Chagres River lying between Obispo and Gatun, out in the elevated region in which is found the watersheds of these several rivers—the Gigante and the Trinidad, and those rivers. They do not know anything about it, and they say that they do not know anything about it. Here is a canal to be built, and whether it is built at Gatun or whether it is built on a sea level or whether it is built at Bohio, it makes no difference where you put your dam for the control of the Chagres River, the first thing you have got to do in order to build your canal or your

dams is to divert the entire flow of the Chagres River from its present bed and throw it entirely beyond the works that we propose to construct.

Each of the projects that have been submitted to this committee heretofore contains a diversion channel, and with very little consideration in either case—in the old Bohio dam case, in the French location, none at all; and in the Gatun location, reported by the majority of the committee, this diversion channel is provided for by running the waters back over the watershed of, I believe it is, the Indio River; I am not quite certain of the name; running it back over the watershed of that river, crarrying it out in the swamps and out to sea, so as to get a dry place to work on. Anybody knows—the commonest man in the world knows—that in order to build a dam there you have got to have a dry place to put it down.

You can not put it down in the water. You have got to have a dry place to work on. That diversion channel, which is the most important part of this whole work in a preliminary sense, and may become the most important part of the whole work in the control of the Chagres floods, which are terrible—nearly as bad as this earthquake at San Francisco—upon that country. That channel has not been devised. There is no map of it here; there is no topographical survey. It is through a country filled with chaparral and all kinds of tropical growth, which we have not cut through. That ought to be done before we settle the type of this canal. It is a work that is indispensable, of course, absolutely indispensable, and yet there is nothing here to give us any real information as to whether it is practicable or not.

I beg pardon for having indulged in these remarks, but they have impressed me so much that I wanted to say that much to the committee and to the Senate and to everybody else connected with this business. We had better have an extra session of Congress, if it is necessary, if we can not restrain ourselves with sufficient patience here to do the work of the Government, and come back here after we have had an additional survey of this preliminary route—this drainage route. We had better do that than to rush blindly ahead, as we have been doing since we had to abandon the Bohio project because it turned out that the borings made by the engineers were 40 feet short of the rock that they said they had reached.

I myself do not intend to get into a hurry about this business. I do not want any sudden conclusions about it. I will not risk my—I was about to say reputation, but I do not think that amounts to much; but I will not risk my standing with posterity upon the selection of anything that is to stand here for ages without taking the time to get the facts before me upon which I have to form a judgment. I will vote "no" to everything until the facts are known.

Senator HOPKINS. You made one suggestion during the progress of the evidence that impressed me very favorably, on the cement question, and that was that we are to use such quantities of cement there that it might be wise for the Government to establish its own cement factory.

Senator MORGAN. I am willing to introduce a bill now to have the Government of the United States start a cement factory, and let a body of geologists and engineers go and locate it anywhere in the

United States where it is thought best. I am perfectly willing to do it, and I think it ought to be done.

Senator HOPKINS. I think this: That we are to use such quantities of cement that it is a great deal better to patronize the Americans than the foreigners, in this, that while it is manufactured under a chemical formula, contractors tell me that there is a wide difference in the efficiency of Portland cement as produced by different factories; and that if the Government does not manufacture its own for this purpose, we ought to follow the same policy that we do in purchasing armor plate—that is, have an expert at the factory during each stage of the development of the cement.

Senator MORGAN. Certainly. I am not looking at the financial end of it in the slightest degree, but at the question of the practicability of getting this immense mass of cement that Secretary Taft speaks of, that we are obliged to use.

Senator DRYDEN. I understand that we are to have the cement men before us next week, and we can get a great deal of information from them, I suppose.

Senator MORGAN. We can get from them the prices at which they think they can make it and sell it.

Senator DRYDEN. We would not confine our investigation to that phase of the case entirely.

The CHAIRMAN. Are you ready to proceed with the Secretary, Senator Morgan?

Senator MORGAN. Yes.

Mr. Secretary, I did not quite understand the statement that you made yesterday, that I will read to you [reading]:

"With respect to the type of the canal, I can only urge with great deference that it is of the highest importance that the question be decided with as much promptness as the subject will permit."

In that I agree with you, but I think that haste does not necessarily make progress in this kind of work [continuing reading]:

"The present law—the Spooner Act, so called—certainly intended to provide for the construction of a lock canal."

I agree there with you perfectly. It did not provide for anything else. It excluded the seal-level canal, because the report of the committee upon which that act was predicated excluded it, some for one reason and some for another. It located the dam, which was the key of the canal, at Bohio, and gave us working estimates, down to the last figure, to be followed in the construction—maps, estimates, everything necessary to the completion of that canal, so that a competent engineer in the control of a competent contractor could take those maps and work out that plan without any further legislative assistance and almost without any variation from the plan laid down. That has been abandoned. It was abandoned because Mr. Wallace has ascertained that the borings were not sufficient. They lacked 40 feet of getting down to the solid rock upon which that dam was to be based. Therefore I agree with the Secretary that the Spooner Act contemplated a lock canal. And I go further and insist that that act was based upon that report, or was an affirmation of it by Congress. The Secretary continues [reading]:

"The extent of the financial provision made in the act, when compared with the recommendations of the first Walker Commission,

leave no doubt that the intention of Congress was to appropriate money for a canal at a 90-foot level, with the necessary locks."

I agree to that. [Continuing reading:]

"If Congress decides to reverse this policy and votes in favor of a sea-level canal, then the President is anxious to know it as soon as possible and to begin the work at once."

I think that is commendable. This is the part, Mr. Secretary, to which I wish particularly to call your attention [reading]:

"If Congress decides in favor of a lock canal, or if it chooses not to make any decision at all and is willing to leave the situation as it is upon the law as it is, the President will not hesitate to adopt the plan recommended by the minority, with some possible modifications, and proceed to the speedy construction of the great waterway at an 85-foot level."

Having mentioned a 90-foot level in your statement, and having indicated that Congress acted so as to create a lock canal, are we to understand that the President will not hesitate to adopt a different plan, at a different place, in the event that we are unable to agree as to the recommendation that we will make?

Secretary TAFT. Yes, sir.

Senator MORGAN. That, then, would negative the former Walker report, which excluded expressly the Gatun dam from all consideration, and would, in the President's opinion, justify him in accepting that dam against the judgment of the former Walker Commission?

Secretary TAFT. Yes, sir.

Senator MORGAN. Do you think that the President has the authority conferred upon him by the Spooner law to select a site that is excluded out of the first Walker report at Gatun, and to build a dam there, if Congress can not agree upon some other plan?

Secretary TAFT. I do.

Senator MORGAN. Well, that seems to leave it in this way, that if the sea-level plan is adopted the President is committed in such a way to the Gatun dam as that he would feel justified in refusing to give his assent to the measure.

Secretary TAFT. Well, that would present a different question. Of course, when Congress presents its view—I mean when the two Houses who make up part of the legislative power, who comprise it all, subject to the action of the President under the veto power—present considerations to him, I do not know what conclusion he would reach.

Senator MORGAN. Well, suppose that this Congress should adopt the old Bohio plan, do you understand that the President is so committed to the Gatun plan, which was rejected in the former report, as that he would not approve of such a selection?

Secretary TAFT. That, Senator, is such a hypothetical question that I am not prepared to answer it. Of course that would be speaking for the President without having consulted him, and that I have no right to do.

Senator MORGAN. The President has organized and has carried through all of its operations, or permitted them to carry through all of their work, a joint commission of experts, consisting of foreign engineers and American engineers?

Secretary TAFT. Yes, sir.

Senator MORGAN. Do you know of any authority in the Spooner Act for that work?

Secretary TAFT. Yes, sir.

Senator MORGAN. Can you point it out?

Secretary TAFT. Yes.

Senator MORGAN. I am not questioning the propriety of it, if it is authorized. I merely want to know if it is authorized.

Secretary TAFT. I read from section 7 of the Spooner Act:

"In addition to the members of said Isthmian Canal Commission, the President is hereby authorized, through said Commission, to employ in said service any of the engineers of the United States Army, at his discretion, and likewise to employ any engineer in civil life, at his discretion, and any other persons necessary for the proper and expeditious prosecution of said work."

Senator MORGAN. You think that that relates to the selection of the plan, and to change it from the plan upon which the Senate was then acting, called the plan of the first Walker Commission—it is so difficult to distinguish between those Commissions, but I will call it the Commission of exploration?

Secretary TAFT. I do.

Senator MORGAN. That seems to be "for the proper and expeditious prosecution of said work." As I understand it, that does not relate to the selection of the plan.

Secretary TAFT. Is that a question, Senator?

Senator MORGAN. Yes. Do you think it does?

Secretary TAFT. I think it does; yes.

Senator MORGAN. The preceding part of the same clause reads as follows:

"In addition to the members of said Isthmian Canal Commission, the President is hereby authorized, through said Commission, to employ in said service any of the engineers of the United States Army, at his discretion, and likewise to employ any engineers in civil life, at his discretion, and any other persons necessary for the proper and expeditious prosecution of said work."

You do not consider, I suppose, Mr. Secretary, that that requirement that he should make this selection through the Commissioners applies to any persons that he may choose to select outside of their action, independently of their action, for purposes of consultation or otherwise?

Secretary TAFT. Well, the whole text of the act shows that the Commission acts under him and subject to his control. He can order the Commission to do what he thinks, in his wisdom, ought to be done. Therefore he could order the Commission to select the men who were selected to go on this board, and that is what he did.

Senator MORGAN. You construe the act, then, as meaning that the President can give orders to that Commission to do anything in regard to the selection of the site or the execution of the work of construction that he may see proper?

Secretary TAFT. Yes, sir.

Senator MORGAN. Do you understand the attitude of the President with respect to the Spooner law to be that Congress is confined in its action now to the plans submitted by the Isthmian Canal Commission, under the consultations that have been had by this joint

board, one plan being a lock and lake canal, with a dam at Gatun, and the other plan being a sea-level canal through and through? Are those the two propositions that we are expected and required to act upon here, independently of any other suggestion that might arise?

Secretary TAFT. I do not believe the President thinks Congress is required to do anything, and certainly, in fixing or refixing the type of the canal, if it can be said that the Spooner Act did fix the type of the canal, the President does not think that Congress is limited to any plan. He merely has assisted Congress and invited the attention of the Congress to the question with the view, if Congress wishes to indicate a different view from that which it took before, that it should do so.

Senator MORGAN. You do not understand, then, that it would be inadmissible on the part of this committee, or of Congress, to suggest a plan which, in their judgment, would meet the difficulties and obstructions to a large extent that are suggested as to both the plans presented in due form here upon surveys and reports? It is not considered, in other words, that Congress is to be limited to the consideration of the two plans thus submitted through the Commission for its action?

Secretary TAFT. No, sir.

Senator MORGAN. Then it would, in your opinion, be competent for Congress to take up a plan for this canal that might be a mixed plan of sea level and lock?

Secretary TAFT. Yes; any plan that Congress in its wisdom thought ought to be adopted. I do not for a minute mean to indicate that the whole control of the matter is not legislative and completely within the power of Congress.

Senator MORGAN. At this time?

Secretary TAFT. Yes, sir; and that the only powers that the President has to-day are by virtue of the previous provisions of Congress, of course.

Senator MORGAN. The Spooner Act and the acts that followed that?

Secretary TAFT. Yes, sir.

Senator MORGAN. That clears the way for a suggestion upon which I would like to have you at some time, if you are not prepared to do it now, state your views, because we want to follow the more matured and more studious and more elaborate and more perfect examinations that gentlemen in your position are able to make of these questions, rather than our own suggestions.

Secretary TAFT. Well, sir, the premise of that remark I should like to object to.

Senator MORGAN. What is that?

Secretary TAFT. That is, that I have more time than the committee has to investigate the question of the type of the canal. The committee has been sitting here for a number of days hearing the most expert gentlemen on the subject, and I have to get along with what I can in reading, and I can not read all that I ought to.

Senator MORGAN. Well, time, after all, is limited by the activity of the party that is engaged in performing the act. [Laughter.]

Secretary TAFT. But you were going to ask me some question. Senator?

Senator MORGAN. Yes. Say that it should be decided here that it is practicable, convenient, economical, and safe to dig a sea-level canal from a point at or near Obispo to the Bay of Limon. You will remember, I will put in by way of parenthesis, that the first Walker Commission and the French both agreed upon a sea-level canal from Colon to Bohio, which is about 17 miles, as I recollect, and dredged that out.

Secretary TAFT. If you will permit me, Senator, I would like to ask that you bear in mind that my relations to this canal matter began two years ago. Up to that time I was wholly ignorant of it; and I have not lived with it, as some of the members of the committee have, for a good many years. Therefore I am not particularly familiar with the plans which preceded—

Senator MORGAN. I will presume to state, then, upon the facts presented by the reports, that the French dredged a sea-level canal from Colon to Bohio, or in that vicinity.

Secretary TAFT. Yes.

Senator MORGAN. And that the Walker Commission adopted that sea-level canal from Bohio out to the sea, and put their dam at Bohio as the key of the whole situation for a lock canal.

Secretary TAFT. I remember that.

Senator MORGAN. So that the plan that I am suggesting to you now for your consideration is an extension of the sea-level route from Bohio as far south as Obispo or in that vicinity. The engineers here have stated that a sea-level canal could be extended about 4 miles, along the valley of the Rio Grande, in what is practically dead water. Then, take up the subject on the other side of the Culebra ridge, and begin a sea-level canal, say, at Miraflores, or in that vicinity, and run it out to the 40-foot contour in the Bay of Panama. That would leave about 8 or $8\frac{1}{2}$ miles between Miraflores and Obispo to be overcome by a lock canal; between 8 and $8\frac{1}{2}$ miles. That would give to the sea-level men about six-eighths of the entire length of the canal, and to the others about two-eighths of the entire length of the canal.

It has occurred to some members of this committee in the investigation of this subject that the engineers have failed to consider this suggestion, and that it is worth while to consider it. They have all expressed the belief that the dam at Gamboa, projected by the sea-level party, would create a lake there of quite sufficient capacity to supply the prism of the canal between Obispo and Miraflores as a lock canal; and some of them have said that there is no difficulty in putting in locks at Obispo and at Miraflores upon solid rock foundation. Then the level of this lock system would be anywhere from 60 to 90 feet, according to what the engineers might determine was the most practicable route and the greatest saving to the Government, and so forth.

And then, further, if the transformation of the canal from a lock canal to a sea-level canal ever took place, or should ever be demanded, it would leave only 8 miles to go through for the transformation, and would not require the tearing away, for instance, of a dam at Gatun or a dam at La Boca, on the other side. It would require the throwing away of nothing that had already been constructed there, and would also dispense with the necessity for a sea gate on the coast of the Bay of Panama.

Secretary TAFT. For that type of canal; yes.

Senator MORGAN. For that type of canal.

Secretary TAFT. Yes, sir.

Senator MORGAN. Now, I have ventured to suggest this for your consideration, because I believe that you take a perfectly impartial view of this whole subject, and hope to be able to get your reflections upon it at a later date in these examinations. I think you perfectly comprehend the suggestion.

Secretary TAFT. I do. I think that I could now give the only judgment I am likely to have. Such a plan would have the great advantage of building the sea-level canal part way, a large part of it; so that, should it be thought later on wise to change it, it could be more easily done than under any plan that has been suggested. Just what could be done, just how much it would cost to build the sea-level canal to Obispo, I do not know.

I have been at Obispo myself and I should say, as a layman, with a curbstone opinion, that it was very solid there, judging by the quality of the rock that had to be cut by the French in making the part of the canal prism which they have already attempted. But how expensive it would be to construct a sea-level canal from Obispo to the mouth of the Mindi, I of course do not know, and I venture to suggest that it might be better to ask somebody who can inform the committee, for I do not claim to be able to do so.

Senator MORGAN. I merely assume that in respect of the sea-level plan through and through it will cost just as much between Bohio and Obispo as it would to dig out the same portion of the canal to sea level under this mixed plan.

Secretary TAFT. Yes, sir.

Senator MORGAN. So that there is no difference in the cost.

Secretary TAFT. How large would you make that prism, Senator?

Senator MORGAN. Well, that would depend. That would be for the engineers to say. I think that in the rock parts they propose to make it 200 feet wide.

Secretary TAFT. Yes, sir.

Senator MORGAN. And in other parts 150 feet wide—in the earthen diggings, where they can flatten the slopes of the canal so as to give greater seaway for the ships. That, I understand, is the reason why they expand the sea-level plan at certain places, and expand it more in the rock portions than they do in the earthen portions.

Secretary TAFT. Yes, sir.

Senator MORGAN. Because the banks of the sea-level canal have to be almost sheer; they have to be nearly perpendicular, while in the earth diggings they can have slopes, giving greater seaway.

Secretary TAFT. You mean in the rock the sides of the canal will be perpendicular?

Senator MORGAN. Yes.

Secretary TAFT. You said in the sea-level canal.

Senator MORGAN. Yes; and in the earth they can be spread out so as to give steering room to the ships.

Secretary TAFT. Yes, sir.

Senator MORGAN. I just assume what they state as being the right thing. I have no criticism to make upon any statement made by any engineer here at all. This plan I venture to suggest, further, would include what I consider to be an absolutely necessary preliminary

to the control of the flood waters of the Chagres River—this diversion which is necessary and indispensable in building either canal, a lock canal or a sea-level canal. That diversion has to be made so that the work can be done in dry ground, or comparatively dry ground; and, when made, it ought to be made with care, so that it would stand there forever, for the purpose of making a diversion of the flood waters of the Chagres River, without which no canal can be safe. That is my theory.

So that you think I would be at liberty to suggest such a plan as that, if it occurred to the committee that it was worth while to consider it?

Secretary TAFT. I certainly do.

Senator MORGAN. The first subject that you take up in your consecutive statement here, after the chronology—which I think is very admirable—is: “The government of the Zone, its judicial system, and what is needed in the way of additional legislation by Congress.”

I will take occasion, Mr. Secretary, to say that I am very happy to have a distinguished jurist here to pass upon these questions, because they are complicated, and so far as I am concerned, have given me a great deal of uneasiness.

Secretary TAFT. Well, Senator, if I do not deny it, you will understand that it is not due to a lack of modesty. [Laughter.]

Senator MORGAN. I will premise, Mr. Secretary, by a suggestion that I made at the time that we were acting upon the Hay-Varilla treaty, that the time would arrive when judicial questions of a very serious nature would arise between the Government of the State of Panama—the Republic of Panama—and the United States in respect of our rights under this Bunau-Varilla treaty, or any treaty that we might make; and that those questions would first present themselves, I will say, to the Supreme Court of the United States as a matter of jurisdiction and power on the part of the government of the Isthmian Zone in respect of the rights of persons and property there.

The first inquiry, as it occurs to me—and I make this remark as a prefatory suggestion in regard to the questions that I propose to ask you—is that the Supreme Court would necessarily inquire whether the authority that is being exercised in the Isthmian Zone was supported by the Constitution of the United States. That is the rudimentary question?

Secretary TAFT. Yes, sir.

Senator MORGAN. That is the basis question of all?

Secretary TAFT. Yes, sir.

Senator MORGAN. I do anticipate the time when these questions will necessarily arise. I think they have already arisen, in fact, in diplomatic correspondence between Mr. Hay and this other gentleman, Obaldia, which you have presented in your testimony yesterday.

Secretary TAFT. Yes, sir.

Senator MORGAN. We go back to the act of 1803, which had the approval of Thomas Jefferson, which all the Democrats, at least, consider to be something equivalent to an enunciation in the New Testament. [Laughter.] I have taken occasion, although I am a sound Democrat, to question some of those propositions, particularly that act.

All that is done in the Canal Zone, as I understand it, is done under that act or under the law of the land, as it has been denomi-

nated here, that came over to us, we will say, through the acquisition of that Zone from Colombia to Panama and from Panama to us—the law of the land. The legislation of Congress in the Spooner Act and in the subsequent act applying this act of 1803 to the government of the Canal Zone and the law of the land thus described is what has come over to us as the basis of all juridical action in the Zone. That is correct, is it not?

Secretary TAFT. Yes, sir. May I state what my theory of it is?

Senator MORGAN. Yes; if you please.

Secretary TAFT. The Spooner Act enabled the President to make the Hay-Varilla treaty. The Hay-Varilla treaty was made, and such rights as the United States received in the Zone were received by the Hay-Varilla treaty. Then, by the act of April 28, 1904, the President was directed to take possession of that Zone, and then was given the powers under the act of 1803, if we may call it such, or an act like the act of 1803. And I ought to say that that act was followed not only in this case, but also in the case of the Philippines, so that if Congressional interpretation and action can establish validity by reason of custom, there seems to be a good deal of authority for the constitutionality of the act.

But, however that may be, and assuming its constitutionality, it gave to the President the right to appoint a legislature and vested that legislature with legislative powers. From April 28, 1904, therefore, down to the expiration of the Fifty-eighth Congress, which was the 4th of March, 1905, there was power in a legislature, conferred by Congress—a subordinate legislature—to make laws for the Zone. The general rule, which I presume, Senator, you refer to when you speak of the "law of the land," is that where the control of territory passes from one government to another the laws which were in force as between individuals, not strictly governmental laws, but laws which are in force as between individuals, continue in force in the territory after the sovereignty changes, without any action at all.

Senator MORGAN. Limited entirely to the rights of individuals.

Secretary TAFT. Possibly that is too great a limitation; but, for the purposes of the discussion, I will accept that.

Meantime, during this interval, the legislature had acted and had created a government. That property, that Zone, was in the jurisdiction of the United States by virtue of the Hay-Varilla treaty, which is the law of the land, and when the legislative power of the Commission ceased, when the act of April 28, 1904, ceased to have effect, there was an existing government, bound by existing laws, and those continued in effect, though the power to make them or amend them had ceased to be. Thereafter it was the duty of the President, under his constitutional obligation, to see that the laws were enforced, to continue to supervise that government and see that it carried out the functions as limited by the legislative acts which had theretofore been passed.

Senator MORGAN. I do not make any question at all that the hiatus which was created there between the acts of Congress that you spoke of, the one expiring and the succeeding act, was properly occupied by the law as it had been enacted by the Commission, if that law was valid.

Secretary TAFT. Yes, sir; but you speak of the hiatus. That hiatus continues down to the present day, Senator.

Senator MORGAN. Well, I will bring it down to the present day, in so far as you had enacted laws up to the time that it commenced.

Secretary TAFT. Yes, sir; I think I have answered your question.

Senator MORGAN. Yes; you have answered my question, I think, Mr. Secretary, and I desire to express a dissent, merely for the sake of preserving my own attitude here.

Secretary TAFT. Just to note an exception.

Senator MORGAN (continuing). As to the remark that the Spooner Act authorized the President to make the Hay-Varilla treaty, my judgment is that it forbid him from doing it.

Secretary TAFT. Well, I should like to keep out of the controversy, sir, as to the construction of that act.

Senator MORGAN. That is a question that, I will admit, has passed by and is out of reach, because in its nature it is a political question and not judicial, and therefore the Supreme Court could never touch it.

Do you think that that act of 1803, as reenacted—I believe exactly in terms by the act which you have just referred to, the date of which I do not recall—

Secretary TAFT. April 28, 1904.

Senator MORGAN. Yes. Do you think that that act of April 28, 1904, adopting the act of 1803, conferred upon the President of the United States any powers that Congress could not exercise there?

Secretary TAFT. Well, Congress could hardly exercise executive powers.

Senator MORGAN. I mean any legislative powers or judicial power?

Secretary TAFT. Congress could not exercise judicial power. It certainly did not confer any legislative power on the President's appointees that Congress could not have exercised.

Senator MORGAN. You have stated on a previous occasion—unfortunately I have not the paper before me to call your attention to, but you will remember it—that the power that Congress might exercise within the Canal Zone was the same, or equivalent to the same, that it might exercise in Porto Rico?

Secretary TAFT. Yes, sir.

Senator MORGAN. That there was nothing in the political relation of the Zone to the United States that would forbid Congress from entering that Zone with all of its legislative powers as fully as it might in Porto Rico?

Secretary TAFT. Yes, sir.

Senator MORGAN. Congress could, therefore, adopt a form of government—

Secretary TAFT. Yes, sir.

Senator MORGAN (continuing). Requisite, according to its judgment, in the Zone?

Secretary TAFT. Yes, sir.

Senator MORGAN. And you do not admit or recognize the existence of any power in the Republic of Panama to make a question of the right of Congress to do that?

Secretary TAFT. No, sir.

Senator MORGAN. In that I agree with you.

You say here [reading]: "Under the order of the President of May 9, 1904, power was given to exclude undesirable characters coming into the Zone from its territory, and this has been exercised, in cases

of extradition of fugitives from justice from the Republic charged with misdemeanor, in lieu of a provision in the treaty of extradition covering misdemeanors."

There is in the treaty with Panama a provision for the extradition of persons charged with misdemeanors?

Secretary TAFT. I think not, sir.

Senator MORGAN. You think there is not?

Secretary TAFT. I think not.

Senator MORGAN. You use the words "in lieu of a provision in the treaty of extradition covering misdemeanors."

Secretary TAFT. Because there was not. That is what I meant.

Senator MORGAN. You did not mean that it was substituted in place of it?

Secretary TAFT. No, sir; I meant that there was no provision in the extradition treaty for the extradition of those who committed misdemeanors.

Senator MORGAN. I wanted to get your meaning about that.

Secretary TAFT. Yes, sir. That is a little ambiguous, but that is what I meant.

Senator MORGAN. Now, as to this power of the expulsion of people from the territory of the Zone, I admit, Mr. Secretary, and I do it with the greatest possible earnestness, that the possession of a power of that kind on the part of the Executive, operating in that Zone, is an absolute necessity to the construction of this work. I admit that; and if the President's order establishing that law in the Zone is constitutional, which I hope it may be, it is an important and indispensable part of our public service.

Secretary TAFT. I am afraid, Senator, that there is lurking in your mind some doubt of its validity, and I would like to make a suggestion that probably would sustain it.

Senator MORGAN. Very well.

Secretary TAFT. Perhaps General Davis can advise me where I could find that order. I do not think I put it among my exhibits.

Senator MORGAN. It is here somewhere.

General DAVIS. That order of May 9?

Secretary TAFT. Yes; which you drew and I amended. [Laughter.]

General DAVIS. Here it is [handing paper to Secretary Taft].

Senator MORGAN. Just read it, and let it go into the record.

Secretary TAFT. I drafted this, Senator, having in view the danger of invalidity which you have suggested.

Senator MORGAN. Yes.

Secretary TAFT. I understand it to be settled that due process of law must be exercised in depriving anyone of the right to be where he is when he is found within the jurisdiction of the United States. But the Supreme Court has gone very far in saying what provisions may be adopted for the exclusion of persons coming into the jurisdiction from outside. They have sustained immigration laws and Chinese-exclusion laws with some opinions that, to the democratic mind certainly, convey a bit of a shock—that a man can be sent out of the country by the decision of an administrative officer without having any judicial hearing at all.

Senator MORGAN. That is, that he can be prevented from coming in and locating?

Secretary TAFT. Yes, sir. I invite your attention to this proviso, which contains the provision that you have referred to [reading from p. 2422 of the record]:

"Provided, however, That the Commission shall have power to exclude from time to time from the Canal Zone and other places on the Isthmus over which the United States has jurisdiction, persons of the following class who were not actually domiciled within the Zone on the 26th day of February, 1904, viz: Idiots, the insane, epileptics, paupers, criminals, professional beggars, persons afflicted with loathsome or dangerous contagious diseases; those who have been convicted of felony, anarchists; those whose purpose it is to incite insurrection, and others whose presence it is believed by the Commission would tend to create public disorder, endanger the public health, or in any manner impede the prosecution of the work of opening the canal; and may cause any and all such newly arrived persons or those alien to the Zone to be expelled and deported from the territory controlled by the United States, and the Commission may defray from the canal appropriation the cost of such deportation as necessary expenses of the sanitation, the police protection of the canal route, and the preservation of good order among the inhabitants."

It was intended that that should be under the principle upon which immigration acts and exclusion acts are based; and I suggest to you, Senator, whether that would not justify the adoption of that proviso?

Senator MORGAN. The same principle is in common use among the municipalities of the United States throughout, where they keep out and drive out tramps and other objectionable characters.

Secretary TAFT. We used to have a police judge whom we called "the big judge," a man named Marchand, in Cincinnati, who was famous for telling people of that sort to "take the towpath;" and that was the character of power that he exercised in so doing.

Senator MORGAN. It is exercised in all municipalities in the United States, so far as my observation has extended.

Secretary TAFT. Yes, sir.

Senator MORGAN. And it is a very just power, notwithstanding the shock that you mention to the Democratic conscience. [Laughter.]

Secretary TAFT. I spoke with deference to the Democratic conscience. [Laughter.]

Senator MORGAN. I venture to go a step further, and I think it is a very important step to be considered, and to say that it is necessary to the successful operation of this canal that this power should be extended so as to give to the authorities in the Zone the right to expel any man, no matter if he is domiciled there, or no matter if he is not a recent arrival—the power to expel him from that Zone and to prevent his entering it again.

I do not wish to refer to any political divisions in our country or any other divisions; but I can easily see how a class of men who have been going about in the United States, probably with correct motives, and particularly what are called walking delegates, might get into that Zone and among those twenty or thirty thousand heathen that we have got to work there—

Secretary TAFT. But they are all church members, Senator. [Laughter.]

Senator MORGAN. Very good. There are about as many heathen inside as there are outside, anyhow, I suppose. [Laughter.] But they would put them into such shape, without respect to their religious predilections or professions, as that the work on that canal could be suspended in a day and kept suspended for months, at a most dangerous expense, and possibly creating many other difficulties. I think it is more amenable to interferences of that kind than any other piece of work that we have ever had to do or that any other nation has ever had to do, and that our experience is such as that we are perfectly justified in forecasting the occurrence of such events and providing against them.

The step further that I would take is this: I would authorize the Commission to exercise that power of expulsion upon their discretion and without a hearing, due process of law not being involved in it at all. Now, perhaps that will shock the conscience of a Republican. [Laughter.]

Secretary TAFT. Well, Senator, my own has been trained so much by criticism of our tyranny in the Philippines that I am not a bit troubled on that score.

Senator MORGAN. But I think we have in our own system of government a perfect example of the power and the right and the duty of executing such authority whenever the public necessity requires, in time of peace as well as in time of war. Time of war makes no difference in the situation at all. But in time of peace the Government of the United States has always exercised the power and right and jurisdiction of expelling from its military reservations any characters that might be objectionable, and even any officer that might become objectionable, any civilians that might become objectionable and a danger to the Government service within that area. I have conferred with General Davis, who is the head of the law division of the Army—

Secretary TAFT. The Judge-Advocate-General.

Senator MORGAN. Yes; the head of the law division of the military establishment of the United States. I have conferred with him about this, and, while he does not seem to concur with me in many respects, he has presented me with a very able argument, which at some time I shall take occasion to use in favor of the exercise of such authority.

My proposition is this, and it is the one that I wanted you to consider: That the Government of the United States has ample power, by simply designating a certain area as a military encampment, an area over which it has jurisdiction, to introduce there the military power, which is summary, for the purpose of preserving order within that area—not hostility against the United States or anybody else; no matter of that sort—and that it can establish within such an area its judicial authority to any extent it sees proper to do, for the determination of those private rights or individual rights which we are now compelled to respect under the laws of nations as coming over to us from Colombia.

Secretary TAFT. I think there is no doubt about that. The Supreme Court has decided it expressly—in a Louisiana case, about the 112th United States—that a commanding general has the right to establish quasi-civil courts.

Senator MORGAN. Yes. That is under the law as it exists. The court calls it quasi, because under the law as it exists there is no positive provision for a civil court.

Secretary TAFT. Yes, sir; that it was inherent in the right of a military commander to establish a government which, of course, would be military, but quasi-civil, according to the form it took.

Senator MORGAN. Yes. If we are acting in the Zone under the law of the land as it came over to us from Spain to Colombia, first, and from Colombia to Panama and from Panama to us, we find there a broad and sufficient basis for the exercise of such authority by the Spanish law within any area that is set apart for military purposes. That law is there, and that would justify such an action if we had no better view.

What I propose in regard to the form of government in that Zone is the simple declaration by Congress, as a preliminary to every other declaration that we may make on the subject, that the Government of that Zone shall be the government of a military reservation. That does not imply the exclusion of civil power or of the Constitution of the United States or any right as secured by it, unless, perhaps, it might be the right of trial by jury in criminal cases, and we have a perfect right to exclude that. But I have so firm a conviction that we will never get along peaceably with Panama, and never get along successfully with the management of the labor in that Zone, and with the conflicts and controversies that may arise between contractors if we divide the Zone up into different contracts for building the canal—my conviction is so firm on that subject that I think that the law ought to be administered there in its most intense form and in the most summary manner; not unjustly, not improperly, but with all the power that the Government of the United States possesses of a juridical character, sustained by military authority, and also sustained by civil authority.

I wanted to bring this subject to your attention in connection with this very law, which I insist should be extended and given greater power, and which can be done merely by designating the character of the government as being a government where the civil authority is not necessarily under all the circumstances and all conditions predominant, where we have to overcome that famous and splendid declaration to suit the exigencies of the situation. And that can be done and has been done authoritatively under the Constitution of the United States within areas situated even in the bosoms of different States of the American Union.

Senator HOPKINS. Will you allow me to interrupt you there, Senator?

Senator MORGAN. Yes.

Senator HOPKINS. Would it not be necessary to have a civil court there in order to settle the title to the real estate that is in controversy?

Senator MORGAN. You can have a civil court there, Mr. Senator, for any purpose, but it is subject to the modification of Congress.

Senator HOPKINS. Yes; but what I was getting at, Senator—

Senator MORGAN (continuing). Overruled, if I may use the expression, by the main purpose, which is to build that canal and to do it under the protection of military power. That is my idea, if I

enlarge it so as to include felonies not capital, in which a conviction does not involve capital punishment, then I should think it wise to let that class of cases go to the circuit court of appeals for the fifth circuit; for, while New York is practically as convenient to the Isthmus as New Orleans, it is not quite so near, and the New York court of appeals is so loaded with business that the circuit court of appeals of the fifth circuit could more rapidly dispose of the cases brought before it. Have I answered your question, Senator?

Senator HOPKINS. Yes; I think so. There is one other question that I want to ask: In the case of a man convicted of a felony there, the constitutional question could be raised as well as in a case where the criminal is to be executed, could it not?

Secretary TAFT. The constitutional question could.

Senator HOPKINS. Yes.

Secretary TAFT. It can now.

Senator HOPKINS. Yes.

Secretary TAFT. And if raised the case goes directly to the Supreme Court, and then the Supreme Court takes jurisdiction of the whole case, although the reason by which it gets jurisdiction is the occurrence of the constitutional question.

Senator MORGAN. There is another branch of the jurisdiction that I think ought to be vested in that court that we have given no discussion to, at least in this committee, and I have not heard of any discussion anywhere else about it, and that is the admiralty jurisdiction.

Secretary TAFT. I should think that the admiralty jurisdiction, especially when the canal is constructed, would be exceedingly important; but my understanding is that under this act of 1803 there would be no difficulty in giving that court admiralty jurisdiction.

Senator MORGAN. Yes.

Secretary TAFT. Merely by the legislature—whether the Commission or whatever other body the President should constitute as the legislative body.

Senator MORGAN. The Commission have established two ports there, Ancon and Cristobal, and the Senate at least has voted at this session of Congress to regard those as ports of the United States for all purposes. The vote was taken on the ship-subsidy bill, and I do not know whether it is going to pass or not, but the Senate has expressed itself deliberately upon the proposition that those are ports of the United States. Being so remote from our part of the continent, I suppose that an act of Congress conferring admiralty jurisdiction upon the judge or judges within the Zone would be presently of great importance, and that we need not wait for the completion of the canal.

Secretary TAFT. I should think so.

Senator MORGAN. Because collisions and difficulties of a maritime sort will occur, and we should have a court there to settle them.

Secretary TAFT. Yes, sir. In the Philippines—and I speak of that because you will understand, Senator, that the law that comes down there is quite like that that we have in the Isthmus—

Senator MORGAN. Yes.

Secretary TAFT. It is of Spanish descent, so to speak.

Senator MORGAN. It is the same law really, in a general sense.

Secretary TAFT. Yes. In the Philippines the admiralty questions were disposed of in a most informal way by an executive officer, the captain of the port. So that admiralty jurisdiction there, although expressly conferred by Congress, is very little used. With American ships and with the tradition among American shipmasters that they must go into an admiralty court, I have no doubt that the court, if given that jurisdiction, would find something to do.

Senator MORGAN. Well, I should suppose that they would find a great deal to do, possibly, upon the coastwise laws—adjudications in regard to interventions, and so forth.

Secretary TAFT. That may occur now that there is—

Senator MORGAN. That may occur at any time?

Secretary TAFT. Now that there is a motive for evading that law.

Senator MORGAN. Yes.

(Thereupon the committee took a recess until 2 o'clock p. m.)

AFTER RECESS.

STATEMENT OF HON. WILLIAM H. TAFT—Continued.

Senator MORGAN. In your remarks, Mr. Secretary, you say:

"With deference to the suggestion which has been made here, I venture to point out that were the Zone to be put under a military government, or to be constituted a military reservation, the only method of trial would be by court-martial, which is not supposed to be any less summary than the trial before civil judges."

Secretary TAFT. Of course that is not true with the suggestions you have made, Senator; and I quite concur that it is possible, under a military government, to have civil courts.

Senator MORGAN. The only question would be about the supremacy of the civil over the military authority in that Zone or military reservation, which could be regulated by parceling out the jurisdictions, if we chose?

Secretary TAFT. Yes, sir. I presume that under such a government constituted by Congress—I never have thought of the power to establish a military government under those circumstances, but my presumptions are ordinarily in favor of any power that Congress chooses to exercise—and assuming that power, Congress could no doubt establish civil courts, even under a military government, and give an appeal to the Supreme Court.

Senator MORGAN. And leave the civil courts in the full possession of their jurisdiction, untrammelled by the presence of the military?

Secretary TAFT. I think so; yes, sir.

Senator MORGAN. You say, "Señor F. Mutis Duran is a citizen of the Republic of Panama, one of the leading lawyers of the Republic, who speaks English and is an authority on civil law."

I have a doubt, Mr. Secretary, which I hope you will be able to resolve, as to the power of the Government of the United States to confer a part of the judicial authority of our Constitution and Government upon one who is not a citizen of the United States.

Secretary TAFT. I think that can be done unless there is a specific inhibition; and it has been done, so far as the Executive is concerned, in the appointment of consular agents and vice-consuls, and even

consuls. Unless forbidden by Congress, I do not know why there would be any less power to appoint a judge who was not a citizen than there would be to appoint a member of the executive. In other words, I do not see the distinction between the three powers in that regard.

Senator MORGAN. On the part of the President, it seems to me that the distinction would be that in the appointment of foreign ministers, consuls, and other representatives of the Government abroad, he acts under his diplomatic powers conferred in the Constitution; while in the appointment of a judge of a court he acts under the Constitution of the United States and within the realm of the United States.

Secretary TAFT. With deference, Senator, it seems to me that the President, the Congress, and any of us that assume any authority to do anything, act under the Constitution; and the question is how the Constitution affects us in what we are doing. Now, where there is no express prohibition, I do not see where any implication would arise that would prevent the appointment of a judicial rather than an executive officer who may not be a citizen of the United States. I have never examined the question carefully; perhaps you have: but I had supposed that to be the result.

Senator MORGAN. I have never examined it with a view to any particular case, because I do not remember that any case of that sort has ever occurred, where a noncitizen has been appointed under the Executive authority to an office to be executed entirely within the United States.

Secretary TAFT. I agree that it is an anomalous precedent, but anomalous because the situation is rather anomalous there.

Senator MORGAN. I agree that the situation is anomalous, but I think that renders care for the preservation of the constitutionality of our action more important than if it were not.

Secretary TAFT. Do you feel quite sure that that is the way to feel, Senator, when you come to the question of excluding people from the Isthmus?

Senator MORGAN. Oh, I put that on the military power; not the judicial.

Secretary TAFT. I am not positive with regard to that matter. That is my impression only—that there is no limitation upon the power, and if you were to have to make selections of judicial officers under circumstances like those that prevail in the Isthmus—they are not at all unlike those that prevail in the Philippines—you would find it rather difficult to get judicial officers of sufficient legal capacity and learning who speak both Spanish and English, who speak two languages, and who are sufficiently familiar with the local laws to form part of the court.

Senator MORGAN. That difficulty could be overcome by removing their local laws and substituting Congressional or isthmian legislative action.

Secretary TAFT. I think it is unwise generally when you go into a new country—or, rather, a country to which we are new—to attempt to remove the local laws that have grown out of the customs and with which the people are so very familiar. Of course I do not mean laws like judicial procedure, or the laws defining the relation of the

people to the Government; I mean the laws that control the rights of individuals with other individuals. It is generally contrary to good policy to attempt to introduce new things for people that have been accustomed to and get along very well under the laws theretofore in force.

Senator MORGAN. That is true where you are attempting to conduct civil government for the sake of governing a certain place or a section of a country. But this canal proposition that we are trying to work out is altogether different from that, as the President has announced in his determination in respect of the establishment of government there—that it is not for the purposes of colonization of any part of that country for legislative or other civil uses, but for the purpose of constructing the canal. And therefore I believe that any Spanish law there—we will call it Spanish, because it came over to us from Spain—no matter if it is a good one, ought to be supplemented by an American act, either an isthmian act or other act of Congress, and that everything inside of that Zone ought to be American—that is my view of it—in order to make it successful. Then you get rid of the questions that must arise every day.

For instance, there is a judge who is a citizen of Panama. The people living in that Zone are not affected as to their citizenship of the Republic of Panama by anything that we have done, or, perhaps, by anything that we propose to do. The citizens of the United States who are there have retained their citizenship, and so the employees of the canal have retained their citizenship; and we have a great variety of citizenships within the Zone. Now, it is not necessary, it seems to me, and I think it is dangerous, to have a code of laws there which one class of people, who are citizens of Panama, are controlled by and are used to, and to which our people who go there are entirely unaccustomed.

Of course the problem would work out in the course of administration into a great many different controversies—a great many. But if a citizen of Panama is sued by a citizen of the United States in that Zone, the question at once recurs whether we shall appeal to a citizen of Panama who is on the bench to decide the case, because he is better informed about the law of Spain than anybody else, or whether the American judge shall have a word to say about it, or important influence in the trial.

I think it is unfortunate that there is any admixture of citizenship upon that bench. I think we had better, as it is an easy matter, or at least comparatively an easy matter, to have American laws and American judges to administer them. That is my judgment.

Secretary TAFT. Certainly if the committee or if Congress think that that is the best policy, I would not say a word to dissuade them from it.

Senator MORGAN. No; I suppose not. I called your attention to it merely with a view of getting your opinion upon that subject.

Secretary TAFT. Yes, sir.

Senator MORGAN. You speak of a "passive resistance" of the Government and people of Panama, those who reside outside of the Zone and those who reside in it, which they exercised to such an extent that it was necessary to provide for its removal or its modification by an agreement with that Government. I suppose that passive resistance had reference almost entirely to questions of trade?

Secretary TAFT. What I meant there was this—I suppose “passive resistance” is the proper term to apply; General Davis will confirm what I say in that regard, I am sure—that it was manifested in a declination to make any adjustment on the various questions that you can readily understand had to be adjusted in order that we should get along with them at all, as to jurisdiction along the boundary, the carrying out of the delimitation agreement, the marking of it, and the other matters that have to be settled if you are going to live in the same family with a man. As to those things they simply sat quietly, and would not do anything that the General was anxious to have them do. That is what I meant.

Senator MORGAN. Yes; I see.

Secretary TAFT. Not that they resisted anything that the General had the jurisdiction to carry out.

General DAVIS. It was a question of a reciprocal trade arrangement.

Secretary TAFT. Yes; it was a question of a reciprocal trade arrangement.

Senator MORGAN. Very well; that presents a situation that I am very anxious to get your views about and your recommendations to Congress upon. General Davis found himself embarrassed with respect to what we call “passive resistance” by the fact that the Hay-Varilla treaty did not specifically provide power in him or in the Government of the United States to dispose of the question by the decree of our own Government?

Secretary TAFT. Do you mean as to the boundary?

Senator MORGAN. As to all of these questions.

Secretary TAFT. Yes.

Senator MORGAN. I think I may take the liberty of saying, in order to justify my anxiety in having this matter properly understood in limine—I do not mean in your examination, but in our legislation—that at the time the Hay-Varilla treaty was pending in the Senate there was opposition to its ratification, and various amendments were suggested with a view of providing for a more specific delimitation of the boundaries of those two cities, which up to that time had had no boundaries at all; and also some more specific provisions in regard to the commercial intercourse between the Zone and the other parts of the Republic, relating to trade, etc. The hurry of putting through the ratification of the treaty prevented the consideration of those amendments.

Secretary TAFT. If you will permit me to interject there, Senator. I found in an examination some few days ago with a view to this hearing that there had been some correspondence between Mr. Bunau-Varilla and Mr. Loomis, of the State Department, on the question of the boundaries of Colon and Panama. He did not say that there were any limits, but he said: “Of course what that means is that the boundaries are the boundaries of the buildings that constitute the cities.”

Senator MORGAN. Yes; well, we had several opinions from Mr. Bunau-Varilla upon that and other questions connected with that treaty while we were considering it, and we did not arrive at any definition beyond that vague one that General Davis encountered when he came to exercise his functions there; he found himself paralyzed because he did not know how far his jurisdiction went. Now.

General Davis has obtained, by negotiation and by a modus vivendi, a delimitation of those boundaries which, I suppose, is entirely satisfactory?

Secretary TAFT. Yes, sir. We amplified it a little bit, the General and I, in December, 1904, by obtaining from them an admission of certain marks in the harbors. We got a statement that the lines should run across certain rocks or islands, which somewhat—I do not know that it enlarged, but it certainly fixed a satisfactory harbor for Ancon. One difficulty about the whole matter was that as the canal line runs out from La Boca, in Ancon, it runs into and takes up the best holding ground, the best place for harbor purposes that there is near Panama—that is, just under the islands of Naos and Flamenco; I think those are the names; and the people in Panama were rather disposed to claim that that was the harbor of Panama. The claim had a good deal of force, because the large steamers had always anchored there. But we were able, in this modus vivendi, to run a line which included that in the Zone, with the understanding that the ships of either nation might use that harbor indiscriminately.

Senator MORGAN. It becomes important, in my view, at least, as we are about to legislate for the establishment of a government of a more permanent character than we have had there, that we should enact (as I think we have perfect power to enact) within the limits of that Zone the delimitations of these two cities and also of those bays; so that hereafter, when we want to know how far the power of government extends there, we will have nothing to do but refer to the act of Congress.

Secretary TAFT. That will greatly help the Executive; I can say that.

Senator MORGAN. I know; and the Executive ought to be assisted in that direction.

Senator KITTREDGE. Senator, perhaps I do not quite understand you. Do I understand that Congress can legislate along the lines of that modus vivendi relative to the delimitation of the Zone?

Senator MORGAN. Yes; or any other line that it sees proper to determine, because Congress is sovereign over that entire Zone, except so far as Congress has yielded its sovereignty, and with the further exception of the reservation of the rights of the Government of Panama within the cities of Colon and Panama. Besides that, Congress is sovereign over the country, as much so as it is over a Territory of the United States anywhere. So I think that the declaration by Congress of its rights or of its authority, following, as it seems to be exactly right to do, the delimitations that have already been established, ought to be express and without reservation.

Senator KITTREDGE. The thought that I had in mind was that possibly a treaty would be necessary in order to settle that question.

Senator MORGAN. I do not think a treaty is necessary, because of the broad fact that jurisdiction and sovereign jurisdiction is conferred upon the United States within that Zone, subject only to settlement as to certain delimitations. That government, by a modus vivendi, has agreed to a settlement of those demarcations.

Secretary TAFT. May I interject a moment, Senator?

Senator MORGAN. Yes.

Secretary TAFT. It is true that Congress has complete jurisdiction over the Zone, but that does not help you if you do not know what the Zone is.

Senator MORGAN. That is exactly what I propose to do, to settle it by an act of Congress.

Secretary TAFT. And of course Congress can exercise the political power of declaring what the jurisdiction of this country is.

Senator MORGAN. That is it; and that settles it.

Secretary TAFT. It settles it so far as this country it concerned; it does not necessarily settle it so far as the other country, which is also interested in it, is concerned.

Senator MORGAN. It settles it so far as——

Secretary TAFT. So far as the action of the Executive is concerned.

Senator MORGAN. Yes; and the judiciary. The Supreme Court would follow that political demarcation.

Secretary TAFT. Yes; that is true. But ordinarily when you are dealing with another nation and the question of jurisdiction arises it is settled by treaty and not by act of Congress.

Senator MORGAN. It is settled here temporarily and provisionally by a *modus vivendi*.

Secretary TAFT. Yes, sir.

Senator MORGAN. So we have the agreement of that Government consenting to this arrangement as to the delimitation.

Secretary TAFT. Yes, sir.

Senator MORGAN. We have that.

Secretary TAFT. For temporary purposes.

Senator MORGAN. That is to say, the agreement is a temporary one, but for the purposes of jurisdiction?

Secretary TAFT. Yes, sir.

Senator MORGAN. Now, then, if we put a declaration in any bill we offer here affirming that delimitation, prescribing the boundaries as they are fixed there, and as I suppose they ought to be properly fixed, as to the bays and also as to the cities, that ends it so far as we are concerned, and leaves to Panama the opportunity (I will not say the right) to say something against it. Now, acting in a sense of perfect justice, and acting with the consent of the "powers that be" there, as we have in respect to this matter, I think that we ought to put an end to all further disputation about this very important practical question by making the declaration of Congress to confirm and to conform to this delimitation.

Secretary TAFT. For practical purposes, I have no doubt that the present delimitation will continue and not be objected to, although there is, as you remember, Senator, and as you yourself pointed out, in the twelfth article of this *modus vivendi*, a provision that makes it a *modus vivendi* in not affecting the permanent construction of the treaty.

Senator MORGAN. Yes.

Secretary TAFT. But I think practically it settles the matter so far as the boundaries of the Zone as at present constituted are concerned. When I say "as at present constituted," I mean so far as we now anticipate we may need territory in that Zone. But I beg to call attention to the fact that the treaty is usefully framed to extend that territorial jurisdiction as it may be necessary for us to take other lands for use in the canal construction, and that the same jurisdiction will attach to them when it is found that they are necessary for our use as now attaches to the Zone as delimited by General Davis.

Senator MORGAN. Now, Mr. Secretary, the right of extending and expanding our jurisdiction to meet future necessities is provided for in the Hay-Varilla treaty?

Secretary TAFT. Yes, sir.

Senator MORGAN. The right to do that?

Secretary TAFT. Yes, sir.

Senator MORGAN. The question as to the extent of that jurisdiction is limited only by one expression in the treaty, so far as I remember. That is that the United States has the right to extend its jurisdiction (that means possession and everything connected with jurisdiction) over other areas that contribute their waters to the canal, or any other matters that may be necessary—for instance, contributions of stone or anything else that might be necessary—and that that question is left to the United States to determine by law.

That is my construction of that treaty, and I think that when we arrive at a construction of the treaty that we can all agree to, if we can agree to it, we ought then to express that construction in regard to these matters by acts of Congress, either now or as the expansion of the work may require hereafter, but that it should always be a matter that Congress has the right to determine within the meaning and the purpose of the Hay-Varilla treaty. That treaty settles our rights, but does not define them in every respect, and they must be defined, in my judgment, by an act of Congress. That settles it; that puts our courts, our Supreme Court and all our courts, under the duty of following this political declaration (for it is only a political declaration) as to the jurisdictional powers of the United States.

That being settled in our courts, and being settled justly, we have to take the risk of Panama making a row about it, and I have not any doubt that she will make every one that she can conjure up. I have not any doubt that in our future relations, no matter how pacific and kindly they may be, there will always be enough Spanish assertion and aggression down there to make questions. I think we ought to settle them as we go, but I merely wanted to get your views about that, to see whether we probably could agree or do agree in regard to the meaning of the Hay-Varilla treaty.

Senator KITTREDGE. May I ask a question there, Senator Morgan?

Senator MORGAN. Certainly.

Senator KITTREDGE. As I understand you, Mr. Secretary, you think that this matter of delimitation should be determined by treaty, if there is any necessity for so doing, rather than by legislation?

Secretary TAFT. Yes, sir; but I doubt, now, the necessity of doing anything more than we have done thus far. In other words, I do not think that Congress need delay at this time. I think we are getting along very well as to the delimitation. Of course if you could do everything in advance it might facilitate matters; but I think that is one of the things that could be delayed.

Senator KITTREDGE. The point that I was getting at, and the one that I suggested to Senator Morgan a moment ago, was whether that subject of the delimitation of the cities of Panama and Colon, as respects the Zone, was not a proper subject for treaty rather than Congressional action?

Secretary TAFT. I think so; yes, sir.

Senator MORGAN. Well, as I am in disagreement with both of the gentlemen upon that proposition, I wish to go into it a little further, to see if we can not finally come to a ground upon which we can agree.

This delimitation, and all the other provisions in the paper we call the *modus vivendi*, have been settled temporarily and provisionally. They have never been ratified by the Senate, so that they are not treaties. They have never been submitted to the Senate. The treaty power does not come in to aid the transaction at all.

Secretary TAFT. No, sir.

Senator MORGAN. They are in virtue of the legislative and executive powers of the President. Now, has either party the legal right, under the laws of nations, to recede from this *modus vivendi* at any time?

Secretary TAFT. Yes, sir.

Senator MORGAN. And at their own will?

Secretary TAFT. Yes, sir. I understand that that is really what constitutes a *modus vivendi*.

Senator MORGAN. Yes. So that Panama has it in her power to change these delimitations of everything and all of the provisions of that *modus vivendi* by simply notifying us that she revokes the agreement?

Secretary TAFT. Yes, sir.

Senator MORGAN. I do not like that situation, and I would like very much to remedy it; and I venture to suggest that under the Hay-Varilla treaty the real remedy for it is by an act of Congress and not by a new treaty. I very much deplore the effects of our entering upon new negotiations to perfect the Hay-Varilla treaty, because I have had assurances from that region of the world, from men that I think are entitled to be heard, at least, that if the Hay-Varilla treaty had been sent back there for ratification with any amendment on it at all it would not have been ratified; that there was an opposition among a certain set there (I do not know whether it is the liberals or the conservatives) to this treaty, which will manifest itself whenever we undertake to improve it by negotiations.

And I think that it is a very important duty that after we have ascertained what our legal rights are, as fixed by that treaty, they should be declared by an act of Congress, so as to put an end to all doubt as to the effect of the *modus vivendi*, or any part of it, as we may prefer to designate. It is in that view that I really brought the subject to your attention, because I saw (and we have all seen, of course) that it is a very serious matter to go back before the Panama Government admitting the inefficiencies and imperfections of the Hay-Varilla treaty, which would be necessary in the event that we went there to improve it, and resorting to their further consent to arranging these very matters that you have arranged in that *modus vivendi*.

I propose that with the exception of the postal matters, the finance question, and a certain phase of the trade question, we put a provision in the act of government enacting that *modus vivendi* as a permanent establishment, so that they can not get behind it. I do not propose to try to corral them and put them in by threats, or anything of that sort, but to take such a view of this subject as the Congress of the United States and the President (for he has to act upon everything we do) shall be willing to adopt as being entirely just and entirely

within the limits of the treaty specifications. But the expression is in an act of Congress, and that asserts the political power of the Government of the United States to define in actual legislation what that treaty means.

Senator DRYDEN. Senator Morgan, how could you bind the other party by an act of our Congress?

Senator MORGAN. Because the delimitation that is made there (and I will take that as a mere illustration of the answer I propose to make to you, for there are several points that it would reach to) is, in my judgment, entirely within the power of Congress; and that is the most difficult question we have to deal with—the delimitation of bays and the cities. I believe it is entirely within the power of Congress under the Hay-Varilla treaty, and exactly in conformity with the treaty, that we should make the delimitation by act of Congress.

Extending that view to the other questions, it would seem to become very much more apparent that we certainly have a right to establish the postal system in that Zone without any sort of consent or arrangement with the Panama Government. We have the right under the treaty to admit ships and to protect them while they are in the harbor, and also to regulate all of their commercial transactions in respect to clearances, etc. We have the right to regulate the currency in that Zone, and Panama has no right under that treaty to interfere with it in any respect at all, or to participate in any enactment that may be necessary to establish a proper fiscal system in that Zone, and so on. These rights are much clearer than the one I speak of in regard to the delimitation.

At the same time, I believe that the right of delimitation by act of Congress is perfectly clear; and I think that is made more emphatic for the reason that the Senate, for reasons that they considered sufficient, thought it unnecessary, in view of the treaty, that we should take action by way of amending the treaty, because the treaty provided for it. That was our view of it. That was the view on which that treaty was ratified, and I can establish that by the records—that we had the right to do it. It was not necessary to improve the treaty by any further stipulations in order to get the right, for we had it.

These questions being covered, as I conceive, by the rights granted to us by the Hay-Varilla treaty, nothing remains to us but to legislate to define them, and I think that duty is absolutely incumbent upon us in order to settle all questions that may hereafter possibly arise. And I wish, in this connection, to call the attention of the committee more particularly, and that of Judge Taft also, to the fact that this treaty makes a provision that might as well be called "express" as by any other term at all, by which Panama has the right, without consulting the United States, to merge her Government into any government in the world. She can go to Colombia; she can go to China; she can go to Japan; she can go to Great Britain; she can go to France. She can do it overnight, without asking our consent at all.

That I may call an express provision of the treaty, because it says that in the event of such an occurrence the rights that are reserved to us under the Hay-Varilla treaty shall not be impaired thereby. She can leave us standing alone in the possession of that Zone, with any foreign government that you can mention that she chooses to

adopt in possession of the sovereignty of Panama, by her merger into that government. Already Costa Rica has been making overtures to Panama for consolidation of their governments. Already she has been at it. There has been a deep scheme of diplomacy—and I am somewhat disposed to think that the great probability is that Porfirio Diaz would not have any objections to such an arrangement—which would result in running up the Isthmus to Mexico. That is neither here nor there, of course; but it is a suggestion that has arisen out of the diplomatic effort of Costa Rica and Panama in exchanging notes on the subject which ought to admonish us that there is not only such a possibility, but there is even such a probability.

Whenever Panama desires to merge her political existence in any other government, as she may do under the treaty, I want the border lines and every other matter that is within the purview of this Hay-Varilla treaty so established by acts of Congress that no great government that may come into possession of that territory, with great power, could controvert with us on this question or on any of these questions. I want them settled.

Senator KITTREDGE. May I ask the Secretary a few questions? I am obliged to leave rather early this afternoon.

Senator MORGAN. Certainly.

Senator KITTREDGE. Mr. Secretary, this morning you and Senator Morgan discussed the question of power in the canal government to expel undesirable characters from the Zone.

Secretary TAFT. Yes, sir.

Senator KITTREDGE. Would the situation be aided in any way by an enactment of Congress upon the subject?

Secretary TAFT. Yes, sir.

Senator KITTREDGE. Or is there sufficient power in the Commission, if the President designates the Commission as the legislative body, to so enact?

Secretary TAFT. If you pass the other bill, then there is no doubt, I think, that the Commission would have the same power that Congress would have in excluding from the Territory people coming in who were undesirable as residents.

Senator KITTREDGE. Then, if Congress, at this session, enacts such a law substantially as the law of April 28, 1904, it will be unnecessary, in your judgment, for legislation specifically upon that subject?

Secretary TAFT. Yes, sir. I think that it would be wiser, with deference to Senator Morgan, to make a treaty in respect to extradition for misdemeanors, and to have the treaty specify that as between the governor of the Zone and the President of the Republic orders of requisition might issue without any further formality.

Senator KITTREDGE. Yes.

Senator TALIAFERRO. In the exercise of this jurisdiction, Mr. Secretary, should not the territorial boundaries of the Zone be well understood and permanently established?

Secretary TAFT. I think if it could be done by treaty—I would not make them inelastic, because I think it is very likely that we shall want more land. If you build either the Gamboa or the Alhajuela dam, for instance, I am told (I can be corrected about that if I am wrong) you will probably have to flood your water back 5 miles from the axis of the canal; and if you do that you must exercise jurisdiction over that additional property.

Senator MORGAN. Had we not better have the treaty read on that subject right here, to go in connection with what is being said?

Secretary TAFT. I have it right here, Senator [reading]: "The Republic of Panama further grants to the United States in perpetuity the use, occupation, and control of any other lands and waters outside of the Zone above described which may be necessary and convenient for the construction, maintenance, operation, sanitation, and protection of the said canal or of any auxiliary canals or other works necessary and convenient for the construction, maintenance, sanitation, and protection of the said enterprise."

Then in the third article:

"The Republic of Panama grants to the United States all the rights, power, and authority within the Zone mentioned * * * and within the limits of all auxiliary lands and waters mentioned and described in said Article II."

So that by this we have the right to extend. Now, if we can fix what the Zone is, and still retain this right, then the situation would be just exactly what it ought to be.

Senator TALIAFERRO. Well, is there any difficulty about that?

Secretary TAFT. I do not think there is; no, sir.

Senator MORGAN. Do you mean by treaty?

Secretary TAFT. Yes, sir.

Senator TALIAFERRO. Mr. Secretary, why do we need a further treaty to fix the boundaries of the Zone? They are fixed, as I understand it now, under the existing treaty.

Secretary TAFT. No, sir; they are not fixed in any such way.

Senator TALIAFERRO. You call it temporary?

Secretary TAFT. Yes, sir.

Senator TALIAFERRO. The arrangement may be temporary, but why are not the lines permanent?

Secretary TAFT. Because they could withdraw now, under the arrangement which we made. It is not binding permanently—expressly not; and they could withdraw, and say: "It is true we wanted to get along with General Davis, and for the time we did not regard these things as important; but now we think that we are entitled to this harbor out at Naos and Flamenco," for instance—I will just take that as an illustration. "We need that, and that was part of the harbor of Panama; and as you can not use your *modus vivendi* to define by construction what the treaty meant, we are still entitled to claim that." Now, they claim that, and we claim it; and we are in the situation where it could be settled by treaty, or by the "strong arm" either.

Senator TALIAFERRO. Well, I would rather have the treaty than the strong arm.

Secretary TAFT. I think it is better to have the treaty; and it seems to me that the act of Congress that is suggested partakes a little more of the strong arm than the treaty. That is all.

Senator TALIAFERRO. Mr. Secretary, is it not important for the exercise by this Government of jurisdiction of whatever character over that Zone that the limits of the Zone should be defined?

Secretary TAFT. Undoubtedly, Senator; undoubtedly. It is impossible to get along without that. That is the truth of it; and this *modus vivendi* has just been a bridge, a crutch, so to speak, to help

us along. I think it is a rather useful crutch. I mean I do not think it is likely to be interfered with, but if you can by treaty fix it I think it would be a great deal better.

Senator TALIAFERRO. Why has not the treaty side of the question been taken up, Mr. Secretary?

Secretary TAFT. Because we have had so much else to do and because we have been awaiting the action of Congress, really. That is the reason. I should recommend to the President, and shall do so the moment that Congress adjourns and the type of the canal is fixed, that we go ahead, through the State Department, and seek to negotiate a treaty.

Senator TALIAFERRO. If we could get some treaty arrangement before this Congress, you know, it could be considered in connection with legislation that is to be presented, and the whole thing might be closed up at this session.

Secretary TAFT. I will bring that matter to the attention of the President and the Secretary of State at once, if you desire; and I think it would be a good thing.

Senator TALIAFERRO. Well, I do not care to—

Secretary TAFT. Well, I will not say "if you desire it." I will do so at any rate, assuming that that would not meet with objection.

Senator TALIAFERRO. Yes; I do not see why any member of the committee should not prefer that this thing should be done by a treaty if it can be done.

Secretary TAFT. Yes, sir; I do not think that they are in a frame of mind where they would object to it. That is my judgment.

Senator KITTREDGE. Yesterday in your statement you suggested the payment of the 4½ per cent interest first-mortgage bonds of the railway company, which mature October 1, 1917.

Secretary TAFT. Yes, sir.

Senator KITTREDGE. In your judgment, is it necessary to do any more than make an appropriation to cover the amount of bonds outstanding, with the 5 per cent premium?

Secretary TAFT. No, sir.

Senator KITTREDGE. And the interest to that date?

Secretary TAFT. That is all.

Senator KITTREDGE. The mortgage requires a notice to be given?

Secretary TAFT. Yes, sir; that has been done.

Senator KITTREDGE. Would it be necessary for Congress to legislate upon that subject?

Secretary TAFT. No, sir.

Senator KITTREDGE. Or can you and will you look after that?

Secretary TAFT. I have already taken steps to do that. The notice has to be three months, as I recollect it.

Senator KITTREDGE. I was going to ask you that. As I read this, it is a notice of at least sixty days next preceding the day of redemption.

Secretary TAFT. Is it sixty days? I thought it was three months.

Senator KITTREDGE. I show you article 7—it is not a material matter, but simply to have it fixed.

Secretary TAFT. Yes, sir. I will read this into the record, if it meets your view, Senator.

Senator KITTREDGE. Yes.

Secretary TAFT (reading). "Article 7. It is agreed that the rail-

road company shall have the right, which is hereby expressly reserved by it, to call in, pay, and redeem on any interest date after the 1st day of October, 1902"—

And those interest dates are the 1st of April and the 1st of October—

"and during the remaining term of said bonds, any or all of the bonds issued hereunder and secured hereby, at 105 per cent and accrued interest to the date fixed for redemption, which shall be the 1st day of April or October, in the following-described manner, namely: Whenever and as often as the railroad company desires to pay and redeem any of said bonds it shall deposit with the trustees a sum sufficient to pay and redeem the desired number of said bonds at the said price, and the trustees shall thereupon proceed to draw by lot out of the whole number of bonds then outstanding, and in such manner as they may deem best, such a number of said bonds as the amount of money so deposited will suffice to redeem at par"—

Of course if you deposit it all it is not necessary to resort to the selection of any—

"and accrued interest to the date fixed for redemption, with 5 per cent added to the principal thereof; and the bonds so drawn shall be paid and redeemed by the trustees at said price on the date fixed for such redemption; and the trustees shall cause a notice of such payment and redemption to be published at least once a week for at least sixty days next preceding such date of redemption in at least one newspaper of general circulation published in the city of New York. On and from the date named in the notice of such payment and redemption all interest upon the bonds so drawn shall cease and determine, and all the coupons representing all the interest thereafter to accrue thereon shall from that day thenceforth and forever thereafter be void and of no force and effect, and the railroad company shall not be thenceforth liable for any of the said interest. All bonds so paid and redeemed, together with all coupons thereto belonging, shall thereupon be canceled by the trustees and delivered to the railroad company so canceled, and shall no longer be entitled to the benefits of this mortgage, or an obligation of the railroad company."

Senator KITTREDGE. I assume that that article contemplates formal action on the part of the railway directors?

Secretary TAFT. Yes, sir; and that will be taken.

Senator KITTREDGE. Now, in regard to the subsidy bonds that are outstanding. As I recollect, they bear interest at 6 per cent?

Secretary TAFT. Yes, sir.

Senator KITTREDGE. Do you advise that an appropriation be made, so that if you can secure those bonds by purchase you may have the funds with which to do it?

Secretary TAFT. Yes, sir. It would relieve us of some responsibility if you fixed a rate at which we might purchase, but I would be willing to accept it even if you just appropriate the par value of the bonds and let us buy as we find we can.

Senator KITTREDGE. What is your recommendation about that, Mr. Secretary?

Secretary TAFT. My understanding is that the bonds can probably be bought; they run for so short a time, you see. They expire under the amortization plan in 1908.

Senator KITTREDGE. On March 27, is it not?

Secretary TAFT. I do not remember the exact date. After that there is nothing for the United States to pay. It now receives the \$25,000 from the railroad company; it then would receive the \$225,000 which, through the railroad company, it would be obliged to pay; so that the whole thing cancels itself.

Senator KITTREDGE. Why is it necessary, Mr. Secretary, or advisable, to make that payment to the United States?

Secretary TAFT. Simply because we preserve the corporate entity, and we go through the form of depositing in the Treasury that which is due from the railroad company, preserving the separate existence of the railroad company for convenience; that is all.

Senator KITTREDGE. As I recollect, your recommendation yesterday was that that identity be preserved?

Secretary TAFT. Yes, sir; but it is not necessary for us to pay—I think we could without legislation agree with the railroad company that no payment thereafter should be made, in view of the conditions; nobody's right would be prejudiced by such an arrangement, after 1908.

Senator KITTREDGE. The point of my question was whether there was any reason for making this payment in addition to the complete preservation of the identity of the railway property. Is there any further reason than that?

Secretary TAFT. No, sir.

Senator KITTREDGE. I did not understand, Mr. Secretary, that you made a recommendation——

Secretary TAFT. With respect to the subsidy bonds?

Senator KITTREDGE. With reference to the subsidy bonds.

Secretary TAFT. No; I did not, because I had not made up my mind definitely and did not really have information sufficient to enable me to say what could be done with the subsidy bonds, and the statement that I have made as to what could be done is rather a matter of inference than a matter of actual information.

Senator KITTREDGE. There is no right under the bonds to pay them before they become due?

Secretary TAFT. No, sir; I believe not.

Senator KITTREDGE. And in the light of that fact, it is only possible to secure them by purchase?

Secretary TAFT. That is all.

Senator KITTREDGE. Have you any information as to at what price or premium, if any, they could be purchased?

Secretary TAFT. I am not sure whether Mr. Drake told me about that or not, but it runs through my mind that he said that he thought there might be—well, I can ascertain and advise the committee, and I will.

Senator KITTREDGE. As I understand, Mr. Drake is to be here next Tuesday, so you need not bother about that, Mr. Secretary.

Secretary TAFT. You can ask him; yes, sir.

Senator MORGAN. Mr. Secretary. I wish to recall your attention, if you please, for a moment, to the sections of the Bunau-Varilla treaty which you have just read in regard to those parts of our optional rights outside of the Canal Zone. You have not undertaken to negotiate or agree with the Panama Government in regard to any of those matters at all?

Secretary TAFT. No, sir.

Senator MORGAN. They are left entirely open?

Senator TALIAFERRO. Mr. Secretary, General Morgan was out when you made the suggestion that you would recommend to the President and the Secretary of State taking up this matter of fixing the boundaries of the Zone.

Secretary TAFT. Yes, sir.

Senator MORGAN. He was out when that was done. It might be well for you to repeat that.

Secretary TAFT. Senator Morgan, Senator Taliaferro asked me whether I did not think it might be wise at this time for the Executive to initiate negotiations toward the making of a treaty fixing the boundaries, because he suggested that it might be taken up for ratification by the Senate at the same time that legislation with respect to the Zone was being considered, and the whole thing might be disposed of. I said to him that I saw no objection to that at all, and that if the committee did not object I would recommend to the Secretary of State that such a matter be initiated.

Senator MORGAN. I very much apprehend difficulty and danger from taking up any new negotiation with Panama about any matter that can be considered as being settled by this treaty, so as to authorize us to proceed with legislation to define our rights. I am afraid of a new crop of Bunau-varillas and other busy gentlemen in interfering with our rights down there, and I do not want to take the risk of it.

Senator TALIAFERRO. While we are in agreement on the temporary arrangement that you speak of as the *modus vivendi*, is it not likely that we could make the provisions of that agreement permanent, and thereby fix the boundaries of the Zone?

Senator MORGAN. I have no opinion to express as to the probability of our making it permanent; but I was about to ask the Secretary the question whether this was in any sense a permanent agreement. Have we the right to say to them that it is a permanent agreement and is so understood by us?

Secretary TAFT. No, sir. I think I already answered that question.

Senator MORGAN. You have already answered that; yes. So that as to the permanency of the agreement, that depends entirely upon the mutual consent of the parties; either party can depart from it at any moment they see fit.

Senator TALIAFERRO. And hence the importance of trying to make it permanent.

Senator MORGAN. That may demonstrate the importance of trying to abolish it, if it is not right, by act of Congress. There is no time in prospect, as I understand it, Mr. Secretary, when you would revoke either one of these twelve provisions, I believe it is, in the *modus vivendi*?

Secretary TAFT. No, sir; not if I could help it.

Senator MORGAN. I would revoke several of them now, and do it by act of Congress. One of them is that relating to the postal system in the Zone. That arrangement seems to be predicated upon the assertion by the Panama Government that they need all of their postal revenues to sustain their post-offices; that they are poor, and they want all the revenue they can get. Now, I do not understand that

the Executive, either in his powers as President or in his diplomatic powers, has any authority to exclude the postal system of the United States from any part of the territory that is under our jurisdiction. In other words, I do not believe that the President of the United States has the right to negotiate with any country to arrange the postal system in Florida or in New York with any other country and to make a decree that the laws should be changed with regard to our great postal system so as to accommodate themselves to that new situation.

I am addressing myself to the question of the power of the President of the United States to make any change in the laws of Congress respecting postal affairs, and so I feel that I am obliged to antagonize this postal system in the Zone, no matter how convenient it may be or no matter how much it may contribute to the prosperity of the Republic of Panama, or to its convenience, by making a change. I think that that ought to be done entirely and explicitly by an act of Congress, and that the President has no power over it at all. That is my judgment about it, and so I would put an end to that by declaration in a bill that we may offer to the Senate of the United States.

Senator TALIAFERRO. My observations a moment ago as to that modus vivendi, Senator Morgan, were addressed particularly to the marking of the Zone—the fixing of the boundaries of the Zone.

Senator MORGAN. Yes.

Secretary TAFT. Now, Senator, I suppose I have the privilege of making a response to your statement with reference to the postal matters?

Senator MORGAN. Why, of course.

Secretary TAFT. With deference I should differ from the statement, because it assumes that Congress has attempted to legislate with respect to the postal matters in the Zone. The postal laws do not expressly apply, as I recollect them, to the jurisdiction exercised by the United States in the Zone any more than they did to the Philippines, or any more than they did in Porto Rico, or any more than they did in Cuba at the time we had control. The postal systems were extended there, but they were extended under the executive power, or under the special power for the government of those particular places. In the Philippines the United States does not control the postal service; it is conducted under the government of the Philippines. I say "the United States" there, meaning by direct Congressional legislation. And it seems to me that the same rule, therefore, applies to the postal service in a country which is not directly affected by the postal acts under their terms.

Senator MORGAN. I think, Mr. Secretary, that the analogy does not hold in the case of Cuba, because that island, during all the time of our occupation, was under military government, and it is one of the powers of a military ruler to establish postal communication within the limits of his command. Necessarily the power inheres in the ruler. As to the Philippines, after peace has been declared (if it has ever been declared there), after the military occupation has ceased (if it has ever ceased). I would hold that that being our property and being subject to our sovereign jurisdiction, as Cuba is not and was never intended to be, it would be a very decided stretch of executive authority to undertake to rule the postal system of the Philippines.

either by extending the postal system of the United States into them or by refusing to do it, and leaving it entirely to the government of the Philippines to establish its own postal arrangements. I think that the power of Congress must come in there to enable the President to extend the postal system over any part of the country that is in our civil possession—full, complete, governmental, civil, possession. We differ, probably, upon that point of law.

Secretary TAFT. Yes, sir.

Senator TALIAFERRO. I presume, Mr. Secretary, that this postal arrangement was purely temporary?

Secretary TAFT. Yes, sir.

Senator TALIAFERRO. It was a makeshift until we knew definitely what we would do there?

Secretary TAFT. Yes, sir; it was purely a *modus vivendi*.

Senator MORGAN. This arrangement that the Senator from Florida (Senator Taliaferro) calls a makeshift (I think with a great deal of propriety) is only of that character, and it can not be made permanent except in one of two ways—one by a declaration of Congress, and the other by permanent treaty with Panama.

Secretary TAFT. I do not know, really, that it is necessary to have any treaty with Panama on the subject at all. I quite agree with you that a postal system within the Zone is not a matter with respect to which the Republic of Panama has ordinarily anything at all to do. But Panama and the Zone are so close together, and there is such great confusion growing out of the close relation of Ancon and Panama on the one hand and Cristobal and Colon on the other, that practically, for purposes of mailing from other countries, they are almost the same country; and it adds greatly to the convenience if you can have the same arrangement with respect to both.

But it is not a necessary part of a treaty. Indeed, it is no part of a treaty, except that with reference to the rates Congress has authorized the Postmaster-General to make a convention with every other country in the world, and to that extent derogated from the treaty-making power of the Senate; and that can be conducted by the Postmaster-General now, as it has been already, indeed, with reference to the Republic of Panama.

Senator TALIAFERRO. In other words, if the lines of the Zone are definitely and permanently established, this question of the postal service will take care of itself, through the proper Department?

Secretary TAFT. Yes, sir; there is no trouble about that at all.

Senator MORGAN. The subject seems to have gotten to be a very much more aggravated one in its form when you came to what you call the "fierce discussion" about opening the ports of the United States at the termini of the canal, Cristobal and Ancon.

Secretary TAFT. Yes, sir.

Senator MORGAN. That is a question in which foreign governments are concerned, as well as the two neighboring Governments?

Secretary TAFT. Yes, sir. If you will permit me, Senator, they have been concerned in this: The question was whether we should recognize consuls of foreign governments with power to act in those ports, and whether we should clear and enter vessels; and the *modus vivendi* gave us the right without discussion. I do not mean the matter of recognizing foreign consuls; that we took at any rate. That

is a fact, that there is a number of consuls—I do not know that all of them are—who were recognized as consuls in Ancon who are also recognized as consuls in the Republic of Panama in Panama.

Senator MORGAN. That is not uncustomary as to consuls. One consul can serve two governments.

Secretary TAFT. Yes, sir; or represent one government in two.

Senator MORGAN. Yes; that is easy enough. When it comes to the clearance of ships, that is a separate and quite a distinct question from the other.

Secretary TAFT. Yes, sir.

Senator MORGAN. That is a property question.

Secretary TAFT. Yes, sir.

Senator MORGAN. Now, if I understand this agreement, a ship that enters into Ancon or into Cristobal must get its clearances from the Panama authorities?

Secretary TAFT. No, sir.

Senator MORGAN. I misunderstood it, then.

Secretary TAFT. I think you have.

(Senator Morgan examined his papers for the agreement referred to.)

Secretary TAFT. Do you find the provision, Senator?

Senator MORGAN. No, sir; I do not.

Secretary TAFT. I will read it. One of the provisos of section 2 is—perhaps I had better read section 2.

Senator MORGAN. Yes.

Secretary TAFT (reading): "In view of the proximity of the port of Ancon to the port of Panama, and the port of Cristobal to the port of Colon, the proper customs or port official of the Canal Zone shall, when not inconsistent with the interests of the United States, at the instance of the proper authority of the Republic of Panama, permit any vessel, entered at or cleared from the ports of Panama and Colon, together with its cargo and passengers, under suitable regulations for the transit of the imported merchandise and passengers to and from the territory of the Republic of Panama, to use and enjoy the dockage and other facilities of the ports of Ancon and Cristobal, respectively, upon payment of proper dockage dues to the owners of said docks:

"*Provided, however,* That reciprocal privileges as to dockage and other facilities at Panama and Colon, together with suitable arrangement for transit of imported merchandise and passengers to and from the territory of the Canal Zone, shall be granted by the authorities of the Republic of Panama, when not inconsistent with its interests, to any vessel, together with its cargo and passengers entered at or cleared from the ports of Ancon and Cristobal."

You see that arrangement was made because sometimes it was more convenient for a vessel entered at the port of Panama to go into Ancon and unload its cargo and send it right into Panama, treating it as an entry at the port of Panama. That is only a reciprocal arrangement between the two ports. It contains this proviso, however:

"*Provided, however,* That nothing herein contained shall affect the complete administrative, police, and judicial jurisdiction of the two Governments over their respective ports and harbors, except as hereinafter provided in section 6."

That is the quarantine provision in which we were allowed to exercise quarantine in the harbors of Panama.

Senator MORGAN. Then a vessel can enter and clear from the port of Cristobal without the consent of the Government of Panama?

Secretary TAFT. Oh, yes, sir.

Senator MORGAN. But if she crosses the line and goes over to Panama, taking that en route to her destination, she has to enter and clear there?

Secretary TAFT. Yes, sir.

Senator MORGAN. It takes two entrances and two clearances to get a vessel through?

Secretary TAFT. Yes, sir. That is necessarily involved in having separate governments.

Senator MORGAN. It is not necessary that the Government of the United States should make an agreement of that sort with Panama?

Secretary TAFT. No, no. There is not any agreement here of that kind. That is taken for granted.

Senator MORGAN. Yes. A very material part of the irritation that seems to have been engendered in the two cities of Panama and Colon arises out of trading with the operatives on the canal?

Secretary TAFT. Yes, sir.

Senator MORGAN. I would be very glad, Mr. Secretary, if you would explain exactly what that difficulty is, and what was the demand of Panama upon the Government of the United States in respect of it—what was the assertion of her right?

Secretary TAFT. There was not any assertion of rights at all. It was the assertion of the expectation that they had under the treaty that they would enjoy prosperity from the money which was to be paid by the Government and expended in establishing what would necessarily be a settlement of eight or ten or fifteen years, from which the merchants of Panama and the people of Panama expected naturally to get a good deal of profit.

Senator MORGAN. And enjoy it to the exclusion of the merchants and the people of the Zone?

Secretary TAFT. Oh, no; oh, no. What they wanted was free trade. They did not want to be shut out by the tariff wall of the Dingley bill. Had we put in the rates under the Dingley bill, it would have excluded them altogether from dealing in the Zone at all.

Senator MORGAN. Then, the situation that you provided for by this *modus vivendi* was to dispense with the Dingley law in the Zone?

Secretary TAFT. Around the Zone; yes, sir.

Senator MORGAN. Around the Zone?

Secretary TAFT. We made free trade between the Zone and Panama and Colon.

Senator MORGAN. The Dingley law would exist there, it being a part of our territory, in the absence of Congressional legislation, would it not?

Secretary TAFT. No, sir.

Senator MORGAN. It would not?

Secretary TAFT. No, sir.

Senator MORGAN. It had to be extended by Congress?

Secretary TAFT. Either by Congress or by the legislature that acted under the authority of Congress.

Senator MORGAN. Did the legislature, the Isthmian Canal Commission, extend the Dingley law into that Zone?

Secretary TAFT. Yes, sir; that is, they were directed by the President to do so, and they acted on it, or the governor issued the proclamation; but with the consent of the Commission it was never put in force. I think I am right about that, am I not, General?

General DAVIS. Quite right.

Senator MORGAN. That brings up the question, Mr. Secretary, as to whether the act of 1803, repeated in the more recent enactments of Congress, which original act applied to the Louisiana Territory, authorizes the President of the United States to make laws imposing tariffs upon the importation or the exportation of goods from that Zone. Do you hold that that act, properly construed, gives to the President of the United States the power, through the Isthmian Canal legislature, I will call it, to enact a law fixing tariff duties upon imports from foreign countries?

Secretary TAFT. I do.

Senator MORGAN. I just wanted to know how far the doctrine would extend.

Secretary TAFT. Yes, sir.

Senator MORGAN. And of course if the power existed to enact the law it existed to repeal it?

Secretary TAFT. Yes, sir.

Senator MORGAN. Or, as has been done in this case, to suspend it?

Secretary TAFT. Yes, sir.

Senator MORGAN. That is the state of the law there now. It is the Dingley bill, reenacted by the Isthmian Canal Commission, as applicable to all of the countries of the earth in regard to the tariffs that shall be levied upon importations, which has been—

Secretary TAFT. Revoked.

Senator MORGAN. Which has been revoked by the Isthmian Canal Commission?

Secretary TAFT. Yes, sir.

Senator MORGAN. And the question of the tariff dues that shall be charged upon importations into the Zone is settled by the *modus vivendi*?

Secretary TAFT. Yes, sir; and adopted by the Commission.

Senator MORGAN. And adopted by the Commission. That question is, as to the State of Panama—I do not know whether that is a reciprocal obligation or not—that they shall reduce their rates of tariff upon importations from 20 to 10 per cent, is it?

Secretary TAFT. From 15 to 10.

Senator MORGAN. Does that impose a similar obligation upon the Zone authorities in regard to their importations that the Dingley tariff shall be reduced from 15 to 10 per cent *ad valorem*?

Secretary TAFT. No, sir. The consideration which moved the Zone authorities was that which forbade the importation of anything into the Zone except what came in for Government purposes or for the purposes of the Government's employees.

Senator MORGAN. That was the interpretation put upon the Hay-Varilla treaty in that respect. The treaty forbids the free entry of goods into the Zone?

Secretary TAFT. The treaty permits the free entry, you mean?

Senator MORGAN. Well, it forbids, really, the free entry of material into the Zone for any other than the purposes of the canal, except transportation through.

Secretary TAFT. Yes; the treaty provides that the United States may import free of duty everything that it would use for the construction of the canal or that was necessary for its employees.

Senator MORGAN. You confine the operations of that act to the particular matters described in it, and outside of that, of course, the United States had no right?

Secretary TAFT. Ah, no; I do not think that. The truth is, if I understand it, that the Hay-Varilla treaty adopted a number of provisions of the Hay-Herran treaty. It seems to have been rather hastily constructed, and failed to note, or at least failed to act on the theory (or what was the fact, too) that goods could be imported into the Zone directly, without going through the Republic of Panama. So that this provision with respect to the importation of merchandise free from duty applied to a condition where you imported it through the Panama territory. There is nothing in that Hay-Varilla treaty that forbade the importation into the Zone of anything that the United States might wish to take in there, private property or otherwise. It had its application really to goods that went through the Republic of Panama.

Senator MORGAN. Then you changed that in the *modus vivendi* to what extent?

Secretary TAFT. We did not change it at all. What we did was to merely prohibit the importation into the Zone of any article at all; we required it to come around through Panama, in order that private importations should pay to Panama a revenue.

Senator MORGAN. Although the private importations were made into the Zone?

Secretary TAFT. Were intended to be made ultimately into the Zone; yes, sir.

Senator MORGAN. That is to say, one of our operatives down there who wanted to send off and get goods for his own family or his own enjoyment, for personal use, not connected with his official duties, should pay a duty of 10 per cent to the Panama Government?

Secretary TAFT. Yes, sir.

Senator MORGAN. That, then, was the levying of a duty of 10 per cent upon all importations made from the United States or from any other country through Panama into the Zone?

Secretary TAFT. Yes, sir.

Senator MORGAN. Then the question arises, in my mind at least, as to whether or not the act of 1803 was intended to apply to any such situation, or could apply to it. That is a question that I think you probably have answered by saying you think it could.

Secretary TAFT. Yes, sir. I am looking, Senator, for a remark made, I think, by me in the dispatch to Secretary Hay on the adoption of this *modus vivendi*. I think I included that among the exhibits.

Senator MORGAN. I concede that your proceeding was regular, because you were there representing the President, and all of your actions were referred to the Secretary of State, and he approved them as his official act.

Secretary TAFT. May I read from that?

Senator MORGAN. Yes.

Secretary TAFT. I read from page 67 of Exhibit 6, my dispatch to Secretary Hay:

"This order will secure all the duties for the Republic, and will give it also some income from post. The duties might be secured to the Republic not by restriction of character of importations at terminal canal ports, as above, but by imposing a higher duty in canal ports than in Panama ports on all but excepted articles—say, a 50 per cent increase—but whichever be the method, the prohibition of certain importations in the one case or the imposition of higher duty in the other must, in order to effect purpose, apply to importations from United States of America into Zone, and the question is, Which is preferable? I prefer the former."

I was saying this to Secretary Hay.

Senator MORGAN. I do not question the regularity of your action at all.

Secretary TAFT. I might also follow that, Senator, by reading something here that I referred to this morning.

Senator MORGAN. Yes.

Secretary TAFT (reading): "Presume objection will be made that American manufacturing interests are not protected by this order from competition with world on material and machinery for canal. If Congress wishes to secure that business solely to American merchants and manufacturers, it should do it by direct limitation on purchases and contracts of the Canal Commission, and not by indirect method of duties, which can not but work inconvenience and hardship to Republic—to Panama and its merchants, as well as to Zone and its inhabitants."

Senator MORGAN. That seems to indicate the opinion of Mr. Hay that we ought to legislate on the subject.

Secretary TAFT. Yes, sir—well, this is my statement to Mr. Hay.

Senator MORGAN. This is your statement?

Secretary TAFT. Yes, sir.

Senator MORGAN. Mr. Hay approved everything you did there. did he not?

Secretary TAFT. Yes, sir; he sent back word——

Senator MORGAN. I know he did; so I regard the question as being one really between Mr. Hay and Congress.

Secretary TAFT. Yes, sir.

Senator MORGAN. You made a provision there in regard to certain articles of importation that seem to affect certain classes of people, particularly those that are born in tropical latitudes. I wish you would explain that, if you please, and the necessity for it.

Secretary TAFT. I thought I did explain that.

Senator MORGAN. Did you do so sufficiently?

Secretary TAFT. However, I will be glad to go over it again.

I talked with Mr. Wallace and with General Davis and with Admiral Walker on the general question whether we wanted to go into the matter of furnishing these tropical supplies, rice, and that class of food supplies that tropical laborers eat—whether we wished to do that and import for them—and we concluded that it would not be wise for us to undertake to do that unless there was an evident effort to charge them exorbitant prices. So I concluded that in construing, or, rather,

ordering the enforcement of article 13 of the treaty, and in making provision as to how that section should be carried out with reference to certificates and defining what was meant by the treaty in the merchandise to be imported, it might be well to put in a specific declaration that for the present we would not insist on introducing by the Government, for the benefit of these native employees, their food supplies. We would just let them buy where they chose. Probably they could buy as well and more cheaply, because the merchants on the Isthmus had always been used to furnishing that kind of supplies to that kind of labor.

With respect to the American labor, however, as we found in the Philippines, it is absolutely necessary to import what they are used to eating, because you can never get it from the ordinary merchant in such a country. Therefore I made the provision in the order, in reference to construing and carrying out article 13 of the treaty, that all articles for the Government or for the employees, classifying them, should be admitted on the certificate of a certain officer; but that commissaries for the native employees would not be opened and established, and such articles would not be imported under that section or article unless it became apparent that the merchants of the Zone were not furnishing the articles at a reasonable price, in which case the power which undoubtedly existed would be exercised, and the Government would import food for its employees of that class.

You will remember, in the evidence of Governor Magoon and in the evidence of Mr. Shonts, what appeared to them in July and August—namely, that there had been there a corner, or certainly a scarcity, in provisions for that class of labor, and that they opened the commissaries and did import food for that class of labor. Now, they have gone on and kept open the commissaries, as I am informed, and kept open the soup houses, or whatever they are, in which they expect to feed these employees, and the result is that they do not have any custom. The native laborer prefers to feed himself, and to buy from the native shops. Now, that is the situation.

Senator MORGAN. Either in Panama or in Colon, or in the Zone?

Secretary TAFT. Or in the Zone itself.

Senator MORGAN. As the case may be?

Secretary TAFT. Yes, sir.

Senator MORGAN. Let us take rice; that is a staple food for all tropical people?

Secretary TAFT. Yes, sir.

Senator MORGAN. That is not produced at all in Panama in any quantities, is it?

Secretary TAFT. I do not think it is. I do not think it is produced there in any quantities. It may be raised there to some extent, but I am quite sure they get it from—well, let me see; I do not know where they do get it from.

Senator MORGAN. It is imported?

Secretary TAFT. But it is imported.

Senator MORGAN. And coming into the Zone, it would be liable to duty or not, just as this *modus vivendi* regulates?

Secretary TAFT. Yes, sir.

Senator MORGAN. It would be liable to a duty of 10 per cent *ad valorem* coming into the Zone?

Secretary TAFT. Yes, sir.

Senator MORGAN. Now, that is an article that is commonly in use amongst all people who are raised in the Tropics. Does the other provision of the arrangement, as to the excessive prices to be charged by the Panama merchants, apply to rice?

Secretary TAFT. Yes, sir.

Senator MORGAN. It applies to rice?

Secretary TAFT. It applies to everything. I am not sure whether they do not bring in rice for other people, but I do not know about that. It does not affect the principle or the character of the question.

Senator MORGAN. The importation of rice by the Government of the United States for the purpose of selling it or feeding it through their commissaries to laborers is controlled by the article in the modus vivendi that says that it shall bear a duty of 10 per cent?

Secretary TAFT. Well, no, sir; it is not. The order with reference to article 13 was made after the modus vivendi, so called, was signed. It was made after I came home, in the construction of article 13; but I was controlled more or less by a desire not to raise a serious question with reference to the feeding of those employees, and I do not think that, properly speaking, it is a part of the order of December 3. It is true that it added 10 per cent; but we did not want to go into the business of buying rice and buying all those things if we could avoid it, and I think the price of rice was quite reasonable on the Isthmus, and the price of all those things. Indeed, it seems so now, because we are buying rice, and they do not buy of us, though we import it free.

Senator MORGAN. They do not buy any of you at all?

Secretary TAFT. Oh, very little.

Senator MORGAN. How do you account for that?

Secretary TAFT. I suppose the merchants undersell us. I do not know. I expect they get their material cheaper.

Senator MORGAN. That must be the fault of our purchasing agents, then; because if our rice comes in free, they certainly can not undersell us under ordinary circumstances.

Secretary TAFT. Of course we have to add a percentage, and perhaps their percentage is less than ours.

Senator MORGAN. A percentage for what?

Secretary TAFT. For the handling of it and the purchase of it.

Senator MORGAN. Oh, yes. That is quite a puzzle to me. I can not understand why they should go and buy rice from the merchants of Panama when they can get it at the same rate from the merchants within the Zone. You have American merchants in the Zone?

Secretary TAFT. General Davis knows about that. I do not think we have many.

General DAVIS. No; there are almost none.

Secretary TAFT. The merchants there are mainly Chinese, are they not, General?

General DAVIS. Yes.

Secretary TAFT. Where you get a Chinaman, Senator, he can undersell anybody.

General DAVIS. I can add a little light to this subject, perhaps, by saying that the natives of Panama, Jamaica, Barbadoes, and Martinique who are at work on the Zone do not use rice to any such extent as the Oriental does.

Secretary TAFT. I did not know that.

General DAVIS. The Porto Rican is a great rice user, for he is a great rice producer. But in Jamaica there is almost no rice raised and very little consumed.

Secretary TAFT. They live on bananas, do they?

General DAVIS. They live on yams and yuccas and those roots, the tubers—plantains and so on. The plantain is the great food of the Jamaican negro. It is a banana without sweetness. It grows very long, very large.

Senator MORGAN. But those yams and bananas and plantains are not grown in sufficient abundance in the Isthmus to supply the market, are they?

General DAVIS. They have been adequate for their present needs. I think there are some yams brought to the Isthmus from Jamaica, quite a good many of them. The ships bring them over.

Secretary TAFT. But, General, Bocas del Toro is one of the great banana ports, is it not?

General DAVIS. Oh, yes; very large.

Secretary TAFT. That is in Panama; so that they do raise, in Panama, that kind of food.

General DAVIS. The yam represents to the Panama person what rice represents to the Porto Rican and the Oriental.

Senator MORGAN. Then the matter is left in this way: That the Government of the United States does not import any of these things—plantains, bananas, yuccas, or anything else?

General DAVIS. I can only speak of what happened during my time.

Senator MORGAN. We import none; so that the supply, of course, must come in either from the native production of Panama or from importations by the Panaman merchants?

General DAVIS. Yes, sir.

Senator MORGAN. So that throws the whole of that trade into the hands of the Panamans. We get nothing of it at all.

General DAVIS. No, sir.

Senator MORGAN. Can that be relied upon, in time to come, for the support of the labor down there?

Secretary TAFT. I think we have now about 25,000 men there, and they do not patronize our commissaries. They make their own purchases from the local suppliers.

Senator MORGAN. Those local suppliers must make some profit upon the supply of that great amount of provisions?

Secretary TAFT. I hope they do.

Senator MORGAN. Well, it is probably true that they do?

Secretary TAFT. I suppose so; yes, sir.

Senator MORGAN. It seems to me that Congress ought to take in charge this subject of the duty upon such importations in order to regulate the food supplies for perhaps ten or fifteen or twenty thousand people that we rely upon for labor; that it is a subject that Congress ought to take into charge in some form, rather than to depend upon a *modus vivendi*, which the other Government can dispense with at any time. They can dispense with their *modus vivendi* and charge 15 per cent upon the importations if they want to and raise the price 5 per cent.

Secretary TAFT. But then we can open our ports and let them in for nothing.

Senator MORGAN. We can do it, but we have made no provision for it.

Secretary TAFT. Oh, yes; we have. If the *modus vivendi* goes out we can do what we choose.

Senator MORGAN. That does not prevent the making of a corner, though, upon provisions.

Secretary TAFT. It does in the sense that we give those who wish to import an opportunity to import them for nothing.

Senator MORGAN. You can get out of it after you get into the trouble; but it does not prevent you from getting into it. That is what I understand.

Secretary TAFT. Well, I do not anticipate any great trouble.

Senator MORGAN. I am not anticipating anything about it, either; but I want a rule of law that will operate so as to give those people there who labor for the Government a full supply of food, reliable in its quality and also in its amount, and at a rate they can afford to pay.

Secretary TAFT. The truth is, Senator, in order to understand this exactly, that this *modus vivendi* does not limit at all what may be brought in by the United States free. The *modus vivendi* could continue just as it is and the United States could import yams for nothing, if it chose—that is, under article 13; and article 13 is not affected by the terms of the *modus vivendi*.

Senator MORGAN. Article 13 of the treaty, you mean?

Secretary TAFT. Yes, sir.

Senator MORGAN. Would you prefer that that *modus vivendi* should stand as a permanent arrangement?

Secretary TAFT. I do not think it is drawn for that purpose. It was carefully drawn for the purpose for which it was put in force, but it was not intended to be permanent. It was hoped that subsequently it would be succeeded, in so far as a treaty would cover it, by a treaty.

Senator MORGAN. If we have the power to do it without a treaty, you think it is the duty of Congress to do it?

Secretary TAFT. Yes, sir; where Congress thinks that the provisions ought to be put in the form of a permanent law.

Senator MORGAN. I have understood from almost everybody that has talked about it that those were very fine waters for fish down there. What can you tell us about that?

Secretary TAFT. Yes, sir; I think they are; but I think—of course about this General Davis would know much more than I do—my impression is that they have the same trouble there that we had in the Philippines; it is very difficult to get anybody to do the fishing.

General DAVIS. That is true.

Secretary TAFT. So that the food supply from fishing for anybody but the person who does the fishing is really negligible. Is not that true, General?

General DAVIS. Yes.

Secretary TAFT. It is very difficult to get good fish.

General DAVIS. The Chinese are the only fishermen; the natives do no fishing.

Senator MORGAN. The natives are too lazy?

General DAVIS. I think so.

Senator ANKENY. But is it not true, Mr. Secretary, that that fish supply is a big factor in the food supply of these people?

Secretary TAFT. I do not think so, sir. General Davis would know about that, but I do not think so.

The CHAIRMAN. I think, Mr. Secretary, that they do very little work and very little fishing. That is what I should say.

General DAVIS. There is a great deal more Nova Scotia codfish consumed on the Isthmus than any other kind of fish.

The CHAIRMAN. My understanding is that there is an abundance of fish, and good fish, but that they can not get the fishermen.

Secretary TAFT. That is it.

The CHAIRMAN. That is the understanding I had when I was there.

Senator ANKENY. What I meant by that is that this fish could be made a big factor in the food of these people. I did not mean to say anything funny about it; but I think that those fisheries can be made an important factor in the supply of food to those people on the Isthmus.

Secretary TAFT. That is true, Senator, if you could get the fishermen.

Senator ANKENY. We can get the fishermen if there is money in it.

Secretary TAFT. I know; but there is not money in it. That is the difficulty. At least, if that is a motive, and it does exist, it has not operated to produce fishing yet.

Senator ANKENY. Yes; but the idea is that we always have that to fall back upon there as a factor in the supply of the food of those people.

Secretary TAFT. Yes, sir; but it is like having something that you could make profitable if you had the labor; but you have not got the labor.

Senator ANKENY. You might say that of any industry—mining, for instance.

Secretary TAFT. That is true of the mines in the Tropics.

Senator ANKENY. The fish are there, and can be taken, and enter into the supply of those people, as the evidence shows. We ought to know definitely what it is, what it amounts to.

Secretary TAFT. It does not amount to anything now.

Senator ANKENY. I mean, the fish are there, the banks are there, and the industry is there.

Secretary TAFT. No; the industry is not there.

Senator ANKENY. Not in that sense, but the business is there, if you should work it. Is that it?

Secretary TAFT. If you could get some good fishermen from Gloucester to go down there, I have no doubt you could get in a great many fish. Whether the people would buy fish is, I suppose, to be determined by what they have heretofore bought. The Americans on the Isthmus would certainly buy fish, provided the fish were furnished immediately out of the water. You can not in the Tropics take anything but fish that are alive when you buy them. I know something about this, because we used to have the most delicious fish in the Philippines, and we had a very large market for it; but it was very difficult to get the market supplied. On the Isthmus I think it was a good deal worse than it was in the Philippines.

General DAVIS. Yes; a great deal worse.

Senator MORGAN. You describe a state of feeling down there, Mr. Secretary, that I wish to inquire about a little more, with a view of

trying to ascertain whether it is possible to correct it without giving up everything down there that we think is of any important consequence to our work. You say:

"In the era of good feeling between all parties succeeding the revolution they were elected on the same ticket."

That is, the Liberals and the Conservatives?

Secretary TAFT. That is my recollection—I think that was the case. Was it not, General?

General DAVIS. Yes.

Senator MORGAN (reading). "The parties soon divided again when the patronage came to be distributed. The moment the people understood the effect of the introduction of the Dingley tariff between the Zone and the Republic they resented the act as an indication of a desire on the part of the United States to grab the land of the Zone for its commercial purposes and to exclude all Panamans from the profitable business which they had expected to do with the people of the Zone, gathered there by the United States for the great work. The opposition party—the Liberal party—was quick to seize upon this as a ground for attacking the Conservative administration, on the theory that the Government had yielded to the United States and had sacrificed the interests of the Republic. The attitude of the Liberal party, of course, reacted upon the course of the Conservative administration, and both parties were at once driven into hostility to any proposition of the United States looking to the operation of its governmental control over the Zone at those many points where it came in close contact with the jurisdiction of the Republic."

Do you know of any ground upon which you could anticipate that in the future this sentiment would not increase rather than diminish between the Panaman Government and the Government of the United States in that Zone?

Secretary TAFT. It has not. The effect of what we did down there was to make everything as harmonious as possible.

Senator MORGAN. When you went there for the purpose of trying to correct it, you found, as you have described here, that there was fierce antagonism—fierce discussion, rather?

Secretary TAFT. Yes, sir. I ought to say this: That the effect of the publication of the President's letter was, I think, quite good. Still, they did not do anything; and I think the effect of the publication of the *modus vivendi* was good, and it has continued to work satisfactorily since.

Senator MORGAN. And you seem to think that they resented our attempt to carry on any trade down there on account of the American interests, or with American business and capital, as an effort to make a land grab and exclude them from the profitable business that they had expected to do with the people of the Zone, gathered there by the United States for this great work?

Secretary TAFT. What they resented was building a big wall around the Zone in such a way that the cities of Panama and Colon should be excluded from any business association with the Zone.

Senator MORGAN. And especially that would exclude the operatives in our work there in the Zone from trading with them?

Secretary TAFT. Yes, sir.

Senator MORGAN. That was the big end of it?

Secretary TAFT. That is it.

Senator MORGAN. Their views were speculative, not to say mercenary, in that regard?

Secretary TAFT. They were.

Senator MORGAN. And continued to be so?

Secretary TAFT. Yes, sir.

Senator MORGAN. That seems to bring up the question as to the character of the government we are to conduct there—whether we will live from hand to mouth by making pacifications of those people as occasion arises, or whether we are to ordain a system of government that in itself is perfectly just to all concerned, and that will give us control of our property without interruption from these speculators on the Panama side.

Would you not think that it was safer for contractors or for the Government in the conduct of the work of digging this canal to supply that Zone with every necessity to be supplied by the Government of the United States, or by such merchants as we might permit to do work there—not such as chose to do it, but such as we might permit to go there to supply merchandise, and to supply them with money for the conduct of their business, and to supply them with laws and administration that would keep them from being sources of public exasperation or danger or anything of that sort? In other words, ought we not to take authoritative governmental control of every interest in that Zone?

Secretary TAFT. No, sir; I do not agree with that view.

Senator MORGAN. You do not?

Secretary TAFT. No, sir. I think it would be a very impolitic, and, I may add, a very unjust thing, to introduce any sort of obstruction to the trade between the people of the Zone and the people of Panama. I do not mean to say that we ought not to look after our employees and see that they are properly fed; but when they are being properly fed I do not think there is any necessity at all for our taking on the additional burden of feeding them ourselves. On the other hand, I think that they may reasonably expect fair treatment in the matter of doing a normal business with that which they have ceded to us. I do not see any objection to it, Senator. I do not see why we should put in there a strong hand and make them feel that we are there for the purpose of regulating them and depriving them of that which is so natural—a desire to deal with their close neighbors.

Senator MORGAN. The considerations which affect my mind, at least, go beyond the question of the profit to be derived from trade and barter between the people of the Zone, including its operatives, and the people of Panama; and I think they are of quite supreme importance as compared with those that I have just referred to. The city of Colon and the city of Panama, and possibly the villages between, or some of them, are represented as being occupied and inhabited by a heterogeneous population, drawn from the different parts of the earth, from pretty much all nationalities, who are not drawn there for the sake of agriculture or for the sake of exportation of woods or minerals or any other product of Panama, but are drawn there simply for the sake of the traffic that the railroad and the canal engender and create. That is their motive for going there; they have no interest in society at all, except merely to get as much

money as they can, and leave when they can get out of the way. As a result, the cities of Colon and Panama are places that are infested with perhaps every manner of vice, immorality, dissipation, and idleness, to a degree that probably obtains in no two communities in the world so close together, or even very much wider apart.

Secretary TAFT. Senator, upon that point I should differ with you.

Senator MORGAN. I want to get exactly what your view is.

Secretary TAFT. Of course I do not know about the vice in Panama; but I never have been in a more peaceable, quiet, altogether unoffending city than the city of Panama. I have been in Colon; that looks like a western town. It looks like a town that had not been properly constructed, and is not attractive. The town of Panama is a quiet Spanish town, constructed with Spanish buildings. In the evening you go into the parks, and you find people sitting about just as you do in Spain, enjoying themselves. I really think it is a well-conducted city.

They do have a lottery there, and they may have other vices; but the worst people that come there are the irresponsible Americans that have left the United States for its good and possibly for their good.

I beg to emphasize the fact that the Zone is one of the best conducted governments I know, and it is largely due to the ease with which the tropical negro may be governed. He has his faults; he is lazy, and he does loaf about a good deal; but he is amenable to law, and it does not take a large police force to keep him in order.

Senator MORGAN. I understand that perfectly, Mr. Secretary. The negro loves nothing in the world so much as he does a master.

The CHAIRMAN. Speaking of Colon, you alluded to its looking like a western town. Where did you ever see a western town that looked like Colon? [Laughter.]

Secretary TAFT. Well, I had forgotten that there was any sensibleness in the committee about that part of the country. [Laughter.] What I meant was a newly constructed town.

Senator MORGAN. Now, Mr. Secretary, you have explained—and I have no doubt you did it under a painful necessity—the contribution that was made from the United States to these “jayhawkers,” I will call them, in Panama and in Colon. We find that they are very difficult people to control here at home. Is it necessary that the regimen and discipline within that Zone should be of such a character as to prevent those laborers and people from going out of that Zone, except under permission, and coming in contact with these wretches that go from the United States down there, and who are ready to do anything on the earth from stealing their money to cutting their throats in order to get a living?

Secretary TAFT. There is no constitution in the Republic of Panama to forbid their attending to Americans, I think; and if they become objectionable they may banish them. But in the Zone they heretofore have been able to attend to those people. When I was on the Zone the last time there was a murder there, and they never have discovered who the murderer was; but I think that is the chief crime that has been committed since we were there. Of course, with respect to all these matters, Judge Magoon and Governor Davis would know a great deal more than I; I simply pick them up as I talk with you.

Senator MORGAN. I have no motive, in any question that I put on this subject, to criticise the conduct of any government that has been there or any act that has been performed.

Secretary TAFT. Oh, no; I only mentioned those facts, Senator, for the purpose of showing the kind of government that is needed. If the present government gets along well, it forms a fairly good argument for letting well enough alone; and I think everybody that has been on the Zone, even the critical newspaper correspondent who goes for the purpose of seeing that things are rightly done, has not been able to find any ground for criticising the police or the exercise by the police of the power which is given them or of the general order on the Zone. Is not that true, General Davis?

General DAVIS. That is quite the fact; that is quite so.

Senator TALIAFERRO. Bigelow has just been down there again, you know.

Secretary TAFT. Yes. [Laughter.]

Senator MORGAN. Now, looking to the situations that we apprehend, and naturally so, I am trying to see if we can arrive at some conclusion in regard to the government there that will prevent these outside men, who live in Colon and Panama chiefly, and perhaps in other parts of Panama outside of the Zone, from corrupting and destroying the people that we employ to go there to work—these innocent people, these soft and gentle people. I want to take care of them.

Now, I have supposed (and if I am incorrect you can correct me about it) that it is quite necessary to prevent traders and merchants, if you please, small and great, in Panama, from holding out inducements of an attractive and perhaps a vicious sort to get into their pockets this vast amount of money that we are paying out there every fifteen days, in coin and otherwise. I wish to know whether it is not necessary to have, within that Zone, and without permission with Panama, and without consultation with her, too, if you please, and without catering to her demands for trade and all that, a government that will stand on its own feet, and will be able, in every particular, to take care of everybody that is in that Zone. Is not that the best plan?

Secretary TAFT. I would have a government that could stand on its own feet; but I would control the policy of that government by measures sufficient to look after the people, but not calculated to stir up hostility in an independent government that lies so near, and that can in a good many different ways render the burden of the United States very much greater.

Senator MORGAN. A government that has that power?

Secretary TAFT. Yes.

Senator MORGAN. That is coming to the point about it. I never have understood that the Hay-Varilla arrangement or treaty implied in any sense at all a partnership between the United States and the Republic of Panama in the construction or control or management of this canal, or anything about it; that we had not placed ourselves in a position of dependence upon their will or upon their good will or upon their nonintervention or their abstaining from interfering with our policy and our plans; but that we went there for the purpose of building a canal, with all the powers necessary for that great object,

and that Panama should be given to understand that in no respect are we beholden to her for anything whatever except the good will that one honest man owes to another.

That has been my view of it, and it is still my view of it, and I object to this idea of having to consult Panama about our trade relations, and the price of food to be issued to our people, and the regulation of the introduction and exit of our ships, and matters of that sort, including, also, quarantine. I do not think, Mr. Secretary, that we shall ever have any real success there until we change our policy, and that while we should not change it unjustly, or from kindness into severity, or anything of the sort, we should change it as to the expression of our determination to take the control of that Zone as a government and manage it in our own way, without consulting them as to what we should do.

Secretary TAFT. Now, Senator, may I answer that?

Senator MORGAN. Yes; certainly.

Secretary TAFT. I have very little to say in answer to it, except this, that "the proof of the pudding is in the eating." Under the present arrangement we are getting along admirably. There is no trouble at all; there is no interference by the Panama authorities with what we are doing. Therefore I do not see any reason for the change, and I do think that common prudence and common sense and ordinary policy require that where you sleep in bed with a man you should conduct yourself on as friendly relations with him as possible, and we are in the same bed with Panama.

Senator MORGAN. I am sorry to hear it. I have always understood that it was very bad for two persons to sleep in the same bed.

Secretary TAFT. It is impossible to live inside of a country like that, with no natural boundaries to indicate where the difference is, without coming into such close relations that it is a great deal easier for us, where we do not yield any rights, to conduct ourselves in such a way as to make them our friends. That is the principle upon which I proceed.

(The committee thereupon adjourned until to-morrow, Saturday, April 21, 1906, at 10.30 o'clock a. m.)

ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., April 21, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Hopkins, Ankeny, Morgan, Taliaferro, and Simmons.

STATEMENT OF HON. WILLIAM H. TAFT—Continued.

The CHAIRMAN. Mr. Secretary, before you proceed I wish to state to the committee that I understand you expect to be away next week, practically the entire week.

Secretary TAFT. Yes, sir. I shall return for Thursday and Friday. I had hoped to get through this examination before that.

The CHAIRMAN. We hope to get through with you to-day, but we may have to recall you later on. I think, however, so far as the examination that is proceeding now is concerned, we should be through with you to-day. Then we may possibly have to ask you to come again later on.

Senator MORGAN. So far as I am personally concerned, if it is any advantage to the Secretary or to the public service that this examination should be suspended now and resumed when he returns, I am perfectly willing to suspend.

Secretary TAFT. I should prefer to go on to-day, if I may, and get as far as possible; and then you can adjourn over and release me, if you will, until the following week.

Senator MORGAN. There is a part of this examination that I do not think any of us are competent to conduct with satisfaction until we hear from the men who are more familiar with the railroad operations down there than we are.

The CHAIRMAN. They will be here on Tuesday and Wednesday of next week.

Senator MORGAN. That is what I understand.

The CHAIRMAN. I have letters from them to that effect.

Senator MORGAN. That is what I understand. I merely suggested that if it would be more convenient to the Secretary to suspend now and return later it would be perfectly convenient to me to wait.

The CHAIRMAN. I merely say that for the information of the committee—that Mr. Drake is to be here on Tuesday morning at 10.30, and the purchasing agent for the railway is to be here on Wednesday morning. Then you probably will recall the fact that we set apart Thursday for the parties who are interested in the cement business in this country.

Senator MORGAN. Cement?

The CHAIRMAN. Yes.

Senator MORGAN. I do not care so much about that.

The CHAIRMAN. We agreed that we would hear them on that day.

Senator MORGAN. They are trying to sell something to us. That is all there is to that.

The CHAIRMAN. That was the understanding, and they have been notified and expect to be here on that day. Now, Senator, proceed if you are ready.

Senator MORGAN. Mr. Secretary, I want to have your statement and your views about the doubling up, the multiplicity of offices in the hands of the same individuals in the conduct of the Canal Zone work, including the railroad. You stated that when you went down there for the purpose of executing the directions of the President as to this modus vivendi you took with you several persons.

Secretary TAFT. Yes, sir.

Senator MORGAN. And, amongst others, that you took Mr. Obaldia with you?

Secretary TAFT. Yes, sir.

Senator MORGAN. He at that time was minister to this place here?

Secretary TAFT. Yes, sir.

Senator MORGAN. And he was also a director in the railroad?

Secretary TAFT. Not at that time.

Senator MORGAN. He became so afterwards?

Secretary TAFT. Yes, sir.

Senator MORGAN. Did he hold any other office under Panama except that of minister?

Secretary TAFT. No, sir; none that I know of.

Senator MORGAN. Well, then, you took with you Mr. William Nelson Cromwell?

Secretary TAFT. Yes, sir.

Senator MORGAN. How many offices did he hold at that time, or places that we call offices, in connection with this work?

Secretary TAFT. I suppose what you mean is how many capacities was he filling?

Senator MORGAN. Yes.

Secretary TAFT. He was the counsel—I say he was counsel; I assume that he was—for Señor de Obaldia and the Republic of Panama. He acted for them.

Senator MORGAN. Yes. He was their legal advisor?

Secretary TAFT. Yes, sir.

Senator MORGAN. Very good. That is one. What is the next one that he held?

Secretary TAFT. He was the general counsel of the Panama Railroad.

Senator MORGAN. That is two. The next one he held was what?

Secretary TAFT. There was none other.

Senator MORGAN. Oh, yes. He was a director in the railroad.

Secretary TAFT. Oh! I believe he was; yes.

Senator MORGAN. During the progress of that agreement with Panama, which I believe covered more than one visit—not one visit from you, but covered a visit that their agents made here, as well as one that you made down there, in regard to the banking arrangement?

Secretary TAFT. No, sir. There was a currency agreement June 20, 1904, and there was a banking agreement made April 29, 1905.

Senator MORGAN. That is a year apart, nearly?

Secretary TAFT. Yes; quite a year apart, because as to the currency agreement, for the reasons that I have stated, growing out of the issuance of the Dingley Act order of June 24, 1904, nothing was done until we went down in December, 1904.

Senator MORGAN. Well, did Mr. Cromwell represent any interest in either of those negotiations about the currency or the banking agreement?

Secretary TAFT. Not that I know of, sir.

Senator MORGAN. He was at that time also the attorney of the Panama Canal Company?

Secretary TAFT. He was.

Senator MORGAN. Yes. Well, who was Mr. Farnham, that went with him?

Secretary TAFT. He was Mr. Cromwell's assistant.

Senator MORGAN. What do you mean by "assistant?"

Secretary TAFT. I mean he was in his office and under his employ.

Senator MORGAN. A clerk?

Secretary TAFT. Yes; I understand that perhaps that would describe him, though he receives \$3,000 a year, I think Mr. Cromwell stated.

Senator MORGAN. Well, he is probably, then, a head clerk. Was he at that time a director in the railroad?

Secretary TAFT. No, sir.

Senator MORGAN. He had no connection with it?

Secretary TAFT. No, sir; except as he was in the employ of Mr. Cromwell, who was general counsel for the railroad.

Senator MORGAN. Yes. Well, he had no actual connection with it, any more than a scrub woman would have, except by Mr. Cromwell's direction?

Secretary TAFT. That is all.

Senator MORGAN. Who else went?

Secretary TAFT. There was Admiral Walker, Judge Magoon, and I think I took an aid, Captain Coleman, and either one or two stenographers, I have forgotten which—perhaps one, or perhaps my private secretary. I think that was it.

Senator MORGAN. At that time was Mr. Magoon governor of the Zone?

Secretary TAFT. No, sir.

Senator MORGAN. Was he a Commissioner?

Secretary TAFT. No, sir; he was general counsel of the Canal Commission.

Senator MORGAN. He has since been made Commissioner and also governor of the Zone?

Secretary TAFT. Yes, sir.

Senator MORGAN. And holds those two offices?

Secretary TAFT. He does; and minister.

Senator MORGAN. And also minister, to-day?

Secretary TAFT. Yes, sir.

Senator MORGAN. To Panama?

Secretary TAFT. Yes, sir.

Senator MORGAN. In place of Mr. Barrett?

Secretary TAFT. Yes, sir.

Senator TALIAFERRO. He receives no salary as minister, does he?

Secretary TAFT. No, sir.

Senator MORGAN. We have not got to that. He could not do it.

Secretary TAFT. He does not, whether he could or not.

Senator MORGAN. But that is because of the incompatibility of the offices, that he does not receive any salary, and can not do it.

Secretary TAFT. Is that a question, Senator?

Senator MORGAN. Yes, sir.

Secretary TAFT. I do not think that is the reason.

Senator MORGAN. What is it?

Secretary TAFT. It is in order that there shall not be too much salary paid. That is all.

Senator MORGAN. Well, I always thought that if a man held one office under the United States Government he was obliged to stick to that until Congress or some authority of Congress gave him another.

Secretary TAFT. There has to be authority of Congress, but the authority—at least if there is no exclusion there is no law preventing it. You see, with reference to the Philippines, with reference to the Canal Zone, with reference to, I think, Porto Rico, it has been the legislative custom and the executive custom to unite offices of that sort. In the very Spooner Act there is a provision by which army engineers and army officers are to fill two positions.

Senator MORGAN. Retired officers of the Army?

Secretary TAFT. Retired and active.

Senator MORGAN. That is by assignment of the President, not by appointment to an office.

Secretary TAFT. I do not recognize any difference between designation and appointment.

Senator MORGAN. I am a little surprised at that statement, because in that difference, I think, rests the whole doctrine that forbids the accumulation of a multiplicity of offices in the hands of one man. The President of the United States has the right to designate a military officer to any military service or any service connected with the military that he chooses to do, but that is because he holds an office, and he makes the duty appurtenant to it; but he has no right to appoint a major-general of the United States Army to a court as a judge, and have him qualified to enter upon both duties at the same time. They are dissimilar and belong to different departments of the Government.

Secretary TAFT. Of course, the positions are such that they ought not to conflict with each other; but the custom has been, since the beginning, to appoint to two offices, if the law does not prohibit it, where the public interest would be served. I think you can find instance after instance where that has occurred, and it certainly has occurred in the administration of the dependent possessions of the United States.

Senator MORGAN. Well, I think it was when we got to having dependent possessions, as they are called, that are partly in and partly out of the United States, that we found it necessary to qualify officers of the United States to hold offices in the dependent possessions.

Secretary TAFT. Yes, sir.

Senator MORGAN. And therefore to burden them, if we may so speak of it—not so much against their will, I suppose—

Secretary TAFT. Not if it was accompanied by additional salary. (Laughter.)

Senator MORGAN (continuing). With the discharge of duties in both places, under different authority, provided the salary would justify it.

While we are upon the question of salary, Mr. Secretary—and this investigation leads naturally and necessarily up to that—what is the reason for the sudden and very great extension or expansion of the salaries under the new organization, as we call it, the one that is now in existence, of the Isthmian Canal Commission, beyond those that were conferred upon the old Commission?

Secretary TAFT. As a matter of fact, the salaries paid to the old Commission exceeded those paid to the new, but they were differently distributed. The salaries paid to the executive officers of the new Commission were proportioned to salaries paid in ordinary corporate practice for men of the experience and skill and ability that are required for great corporate enterprises, and that are necessarily required in this.

Senator MORGAN. As a matter of fact, you say that the salaries of the old Commission exceeded those that are conferred upon the new Commission?

Secretary TAFT. Yes, sir.

Senator MORGAN. You mean in the aggregate?

Secretary TAFT. Yes, sir.

Senator MORGAN. But they were distributed equally among all the members of the Commission?

Secretary TAFT. Yes, sir.

Senator MORGAN. Then the change that was made was to reduce the salaries of some and raise the salaries of others?

Secretary TAFT. Yes, sir.

Senator MORGAN. Can you point out any actual necessity for that discrimination?

Secretary TAFT. Yes, sir.

Senator MORGAN. I shall be glad if you will do so.

Secretary TAFT. The one thing of all others that was needed in reorganizing the Commission was a head in this country who should be familiar with preparing for great constructive enterprises like the building of a railroad or the building of a canal. The one great defect of the old Commission was the defect of not getting competent employees, or not pushing and pressing and getting to the Isthmus the necessary machinery and equipment, and of not making the plans needed for the preliminary plant which was absolutely required on the Isthmus. Therefore it was needed to secure a man who was used to organizing a great bureau of supply and of pushing those supplies forward under conditions resembling quite nearly the construction of a great railroad. We were not able to get such a man unless we paid a salary equal to that which prevails in circles of that kind. Therefore we paid Mr. Shonts \$30,000.

Senator KITTREDGE. It is \$35,000, is it not?

Secretary TAFT. Thirty thousand dollars.

Senator MORGAN. You mean not that such men were not in the country, but that they did not have the reputation to justify their employment in the work?

Secretary TAFT. They did not have the reputation, the skill; and experience, unless you paid them such a salary.

Senator MORGAN. Was not a difficulty, if not the real difficulty in the first year's operations in dealing with the Panama Canal, the public demand responded to by the administration, or the demand of the

administration responded to by the public, one or the other, that you should at once commence the work of digging?

Secretary TAFT. I do not think that there was any pressure to commence the work of digging. That was suggested by Mr. Wallace, not really for the purpose of excavation, but for the purpose of experiment. Of course it may have satisfied a public demand, when questions were put such as have been put here at this board or before the Appropriations Committee: "Well, are you doing any digging?" The truth is that unless that excavation was justified for experimental purposes, it was not justified at all; because the only proper method of doing a great constructive work like this is to make proper preliminaries before the work of digging begins at all.

Senator MORGAN. When did Mr. Shonts enter upon his duties?

Secretary TAFT. The 1st of April.

Senator MORGAN. Nineteen hundred and five?

Secretary TAFT. Yes, sir.

Senator MORGAN. Did he not find at that time a very great influx of material going in there for all kinds of work that was required to be done, and machinery and everything of that sort, that even overtaxed the powers of transportation that the Government had?

Secretary TAFT. No, sir; he did not. He took action which did bring about the pushing of that, because, for nineteen days succeeding the 3d of April he opened and awarded bids which had been unopened and unawarded under the old Commission; and he sent men to the various establishments where the supplies were to be furnished to press them forward. That work, in addition to the organization of the bureau and getting competent employees for the bureau, took him until the latter part of June.

Senator MORGAN. Whose duty was it to have those bids opened and answered?

Secretary TAFT. The duty of the old Commission.

Senator MORGAN. What member of the old Commission?

Secretary TAFT. Well, Admiral Walker was the chairman.

The CHAIRMAN. And it was his duty?

Secretary TAFT. Yes, sir; I assume so. He was responsible.

Senator MORGAN. And it was his failure, then, to perform that duty that prevented the incoming of material into the canal that was needed for the work?

Secretary TAFT. Perhaps it is putting too much on Admiral Walker to say that. I have no doubt the Admiral worked hard, but they had turned over to Mr. Redfern, who began as a secretary or assistant secretary or clerk, the work when it was easy of attending to requisitions; and while he worked hard, he became swamped with the number of requisitions that came in. The immediate duty was that of Mr. Redfern's, I presume. The defect was in not providing a larger organization.

Senator MORGAN. Well, we have had a very remarkable congestion, according to the statements that have been made here, of freights between Colon and La Boca, across the railroad. Did that occur before Mr. Shonts went there or after he took these active and strenuous steps to assemble material?

Secretary TAFT. It occurred before Mr. Shonts went there. Mr. Shonts did not go there until—

Senator MORGAN. I mean before his appointment.

Secretary TAFT. Oh, you mean——

Senator MORGAN. The congestion.

Secretary TAFT. I do not think that there was any. There may have been some congestion in the commercial transportation before the 1st of April or earlier.

Senator MORGAN. I do not think we have had any account of it if it existed.

Secretary TAFT. I think Mr. Schwerin testified that there were some articles that had not been delivered for a year, but I think those were clearly exceptions.

Senator MORGAN. Yes.

Secretary TAFT. The great congestion occurred after the 1st of April, between that time and the time when Mr. Stevens went there, and arose from the concentration of the filling of all the requisitions that had been sent down there for upward of a year.

Senator MORGAN. Then Mr. Shonts, with his vigor and energy and ability, appears to be the man who was responsible for the rapid influx of material into the Isthmus?

Secretary TAFT. Yes, sir; he and his employees.

Senator MORGAN. It was under his direction?

Secretary TAFT. Yes, sir; that is, he was pushing what had been previously ordered.

Senator MORGAN. Had he ever been on the Isthmus when he gave these orders?

Secretary TAFT. No, sir.

Senator MORGAN. He had not seen it at all?

Secretary TAFT. No, sir.

Senator MORGAN. So that he was acting without personal knowledge of the conditions that actually existed there?

Secretary TAFT. Without personal knowledge; yes.

Senator MORGAN. Without personal knowledge; that is what I say.

Secretary TAFT. He had Mr. Wallace here to assist him from the 3d of April until the 17th of May, from whom, doubtless, he got all the information that he needed on that subject.

Senator MORGAN. Well, it looks to me a good deal like a general assembling his troops on the battlefield and having them arranged by his orders, without ever having been on the field himself.

Secretary TAFT. Not at all. The place for the general is where the work is to be done; and the work was to be done here. Mr. Shonts relied on Mr. Wallace to look after the taking care of the goods when they got there.

Senator MORGAN. That duty was performed, was it not?

Secretary TAFT. No, sir.

Senator MORGAN. It was not?

Secretary TAFT. No, sir.

Senator MORGAN. In what respect was it neglected?

Secretary TAFT. It was left to congestion. The control was left in the hands of Mr. Dauchy, who was not a railroad man, and in the hands of the assistant superintendent, who had subsequently to be discharged because he was not equal to the situation.

Senator KITTREDGE. Had the health conditions anything to do with the congestion?

Secretary TAFT. I presume that by the loss of employees they increased it. But the congestion which occurred by reason of quarantine occurred later. That occurred in July and August.

Senator MORGAN. It was not possible that Admiral Walker in the conduct of his administration of that business on the Zone there had delayed assembling the material in order to avoid just such a congestion, and in order to be prepared to receive laborers and accommodate them with housing and food, as they might come into the Isthmus?

Secretary TAFT. No, sir. I can not understand how that would account for the failure to deliver medical supplies ordered through General Davis in August that did not reach there until February: indeed, had not reached there on the 8th of February.

Senator MORGAN. It is alleged—I do not know with what degree of propriety, as to its being a good justification—that the medical supplies were delayed because of the red tape in getting the approval of officers necessary to their being purchased and forwarded.

Secretary TAFT. I do not think that is true, sir.

Senator MORGAN. You think it is not?

Secretary TAFT. The statement of the Commission was, at least, as I recollect it, in the discussion that arose over a complaint of Doctor Reed, that they had turned the matter over to the Army surgeons and that they were furnished promptly. This was not at that time, but afterwards.

Senator MORGAN. Did the old Commission do any digging there with reference to the opening of the canal as a permanent work, or was it with reference to making the same experimental tests that Mr. Wallace afterwards pursued?

Secretary TAFT. Oh, it was the same thing. Mr. Wallace worked under the old Commission.

Senator MORGAN. Mr. Wallace worked under the old Commission?

Secretary TAFT. Yes, sir.

Senator MORGAN. Those experiments are going on yet, are they not?

Secretary TAFT. No, sir. They were stopped on the 1st of August. I do not mean to say that things are not being done now that might be used probably with more safety as a basis for judgment than those which were carried on under Mr. Wallace. The things which are being done now, however, are not for the purpose of experiment, but are for the purpose of constructing the roads at levels along which it is intended hereafter to put the cars on which the material, the waste, is taken up and run them down to the various places where the waste is to be dumped.

Senator MORGAN. Then the work of experimentation has ceased and the work of construction has actually begun?

Secretary TAFT. It is not work of construction, in the sense that it is not work of excavation. It is work of preliminary construction, on which to put the spur tracks, which will be necessary when excavation really begins.

Senator MORGAN. Then the situation is that the preliminary work necessary to the carrying on of the ultimate work is still being conducted?

Secretary TAFT. Yes, sir; but it is nearly completed.

Senator MORGAN. But not yet completed?

Secretary TAFT. No, sir.

Senator MORGAN. Did Mr. Wallace conduct it with diligence while he had charge of it?

Secretary TAFT. I have no doubt he did.

Senator MORGAN. And skill?

Secretary TAFT. Well, I am not competent to pass on that. He himself testifies to the difficulties that he had, and the reason why what he did was not as useful as it might have been if conducted under the same conditions that excavation is likely to be conducted under in the future. He describes the use of insufficient cars, of the old Belgian pattern, insufficient locomotives with rigid axles, and insufficient tracks of the French which, in the wet season, would slip and throw the cars off. He says that the reason why that occurred—and I have no doubt it is true, and it is a good justification for the fact that he was not able to do better, though it may not be a justification for his doing it at all—was that the material which he had ordered for that purpose was not sent to him.

Senator MORGAN. Well, I suppose the difficulties of every sort in the organization of so great a work, both at Panama and everywhere else, were very, very great?

Secretary TAFT. Oh, yes, sir; and I am not offering what I have offered here as any criticism of Mr. Wallace as an engineer at all. I realized at the time, and I think in my statement I have said, that the difficulties that Mr. Wallace had to encounter were very heavy.

Senator MORGAN. Up to the time of his resignation, or rather his dismissal, had you ever found any objection to his work, or to his skill and ability, or to the reasonableness of his forecast and arrangement for conducting work afterwards? Did you make any objection to his continuance in office?

Secretary TAFT. I had not.

Senator MORGAN. So far as his official duties were concerned, he was all that you expected or desired?

Secretary TAFT. So far as I knew.

Senator MORGAN. Yes. Do you think that it was possible for the first Commission, starting as they did and in the condition that the work was in, during the first year of their service—during the term of their service—to have made any additional preparations for conducting the permanent work on the canal that they failed to make?

Secretary TAFT. Yes, sir.

Senator MORGAN. I wish you would please state them.

Secretary TAFT. They failed quite markedly in the organization of a purchasing and employing department.

Senator HOPKINS. Will you let me ask a question right there, Senator?

Senator MORGAN. Certainly.

Senator HOPKINS. Is it not a fact also, Mr. Secretary, that in selecting Mr. Redfern they took a man who was utterly incapable of discharging the duties of the position in which he was placed, and took him from the police force here at the Capitol without experience and without ability?

Secretary TAFT. Well, Senator Hopkins, I am not familiar with Mr. Redfern's previous history. I only knew that he was a clerk or an employee in the Department. I believe that he was active, and that he did what he could.

Senator HOPKINS. Yes.

Secretary TAFT. But I do not think that his experience was such as to justify selecting him as, in effect, the purchasing agent for so large an enterprise. Mr. Redfern was subsequently employed by Major Gallagher as a forwarding agent, rather than as a purchasing agent, at New Orleans. Mr. Redfern is, so far as I know, an excellent young man, but not adapted to the task which gradually grew and thrust itself upon him.

Senator MORGAN. I suppose Mr. Redfern had as much experience in the position to which he was then newly appointed, the work that he was required to do, as Mr. Bishop has in regard to the duties of a Commissioner or the engineering conditions on the Isthmus.

Secretary TAFT. Well, Mr. Bishop is a very much higher order of man.

Senator MORGAN. I do not know why.

Secretary TAFT. Because he is a man who is older, of very much wider experience, and in the capacity which he was called upon to fill is, I know, a man of ability.

Senator MORGAN. Well, Mr. Redfern had done some work in his life, had he not, of a practical sort?

Secretary TAFT. I do not know about that.

Senator MORGAN. Do you know of Mr. Bishop's ever having done any?

Secretary TAFT. I think intellectual work is quite as important as manual labor.

Senator MORGAN. I said practical.

Secretary TAFT. Well, I think intellectual labor is practical.

Senator MORGAN. Has he any reputation or education as an engineer?

Secretary TAFT. No, sir.

Senator MORGAN. None whatever?

Secretary TAFT. No, sir.

Senator MORGAN. Has he any reputation or education as a geologist?

Secretary TAFT. No, sir; not that I know of.

Senator MORGAN. What is his reputation and education?

Secretary TAFT. His reputation is that of a journalist.

Senator MORGAN. A newspaper writer?

Secretary TAFT. Yes, sir.

Senator MORGAN. He has acquired all the power that that experience would give him, I suppose?

Secretary TAFT. Yes, sir.

Senator MORGAN. In the execution of the great duties of a Commissioner?

Secretary TAFT. Yes, sir.

Senator MORGAN. And that is all?

Secretary TAFT. That is all.

Senator MORGAN. I did not wish to contrast Mr. Redfern with Mr. Bishop, but the situation seemed to require it, and I thought I would present the situation.

Senator HOPKINS. I wanted to bring out the fact that this man was taken from the police force, and that that had been his experience, and the Commission, in my judgment, was not warranted in taking a man

of that limited experience and putting him in the responsible position in which he was placed.

Senator SIMMONS. Who was responsible for Mr. Redfern's appointment?

Secretary TAFT. I have understood, and I think Colonel Edwards is my authority for it, that he was under Admiral Walker in some capacity. Perhaps General Davis can say. Was it at the Metropolitan Club?

General DAVIS. No, sir. I can tell you something of Mr. Redfern. Under the old Isthmian Canal Commission, the Walker Commission of 1899-1901, Mr. Redfern was the disbursing officer for that Commission.

Secretary TAFT. That is it.

General DAVIS. And purchased and forwarded supplies, limited as they might be, instruments, etc., to the working force that were engaged on the line in Central America, Nicaragua, Panama, etc. When this Commission of 1904 was organized he was continued first as a disbursing officer for it, in the first few weeks, and then he was transformed into the purchasing officer.

Senator HOPKINS. Did you know him when he was on the police force?

General DAVIS. No, sir. I never saw him in my life until I saw him in 1904.

Secretary TAFT. I never saw him, so far as I know.

Senator DRYDEN. How old a man is he?

General DAVIS. I should think about 38, or something like that.

Senator SIMMONS. Before he was appointed he had had a limited experience, then?

General DAVIS. Yes. He had had that experience which I state. He had been disbursing officer of the old Commission during two or three years of its existence, and had purchased such supplies as they required for their provisions for the working parties, instruments, stationery, etc., and attended to transportation by ocean and rail, and such things as that.

Senator HOPKINS. How much of a force, General?

General DAVIS. I think very small.

Senator HOPKINS. What do you mean by that?

General DAVIS. Three or four clerks.

Senator HOPKINS. Just the supplies for three or four clerks?

General DAVIS. No, sir; for the parties in the field.

Senator HOPKINS. Oh, yes.

General DAVIS. I could not say offhand, but I think that the number of engineers and rodmen and chainmen, foremen, laborers, and so on, numbered 500. That is only a guess.

Senator HOPKINS. What did he have to do in buying for them?

General DAVIS. He had to purchase such supplies as that force required.

Senator HOPKINS. The provisions they ate?

General DAVIS. Yes, sir.

Senator HOPKINS. Anything in addition to that?

General DAVIS. Instruments, stationery, tools—I only know this by hearsay, Senator. I am not speaking from personal knowledge.

Senator HOPKINS. It was not a very responsible position, was it, under the old Commission?

General DAVIS. Oh, no, sir.

Senator MORGAN. I wish to examine you a little bit about Mr. Redfern, General Davis. When did you first know him?

General DAVIS. I first saw him in 1904.

Senator MORGAN. Where?

General DAVIS. In Washington, after I had been appointed.

Senator MORGAN. After he had served a tour of service with the first Walker Commission?

General DAVIS. Yes; after that.

Senator MORGAN. And the first Isthmian Canal Commission?

General DAVIS. I refer to the Walker Commission of 1899-1901.

Senator MORGAN. Had he not been employed by the previous Commission, by Admiral Walker?

General DAVIS. I could not say. I do not know.

Senator MORGAN. You were not with those Commissions?

General DAVIS. No, sir; I was thousands of miles away.

Senator MORGAN. You do not know that Mr. Redfern had to follow them about over the world, wherever they went, and supply them?

General DAVIS. I do not; no, sir. As I say, my knowledge is hearsay. My knowledge of him is all derived from hearsay.

Senator MORGAN. But you continued him in the service. He was continued in the service of the new Commission?

General DAVIS. He was under pay when the Commission was created, in 1904.

Senator MORGAN. Yes.

General DAVIS. He was continued in that service by Admiral Walker and his colleagues. I went to the Isthmus directly, so that I had really nothing to do with the determination of the policy.

Senator MORGAN. You did your work down there, and the balance of them did their work here. That is how it happened?

General DAVIS. Yes, sir.

Senator MORGAN. Did Mr. Redfern go with you or stay here?

General DAVIS. He remained here.

Senator MORGAN. And was connected with the office work, I suppose?

General DAVIS. Here in Washington; yes.

Senator MORGAN. With the office work in Washington?

General DAVIS. Yes, sir.

Senator MORGAN. Did anybody on the Commission complain of any defect of judgment or industry or sobriety or loyalty on his part?

General DAVIS. So far as I know, no sir. My knowledge, you know, must necessarily be meager.

Senator MORGAN. So that the complaint seems to be that he was once on the police force in Washington?

General DAVIS. I do not know anything about that. I never heard that before. No doubt it is true, as the Senator has stated it.

Senator MORGAN. Did you ever hear that Mr. Farnham, a member of the board of directors, had been a secret-service man?

General DAVIS. No, sir.

Senator MORGAN. I do not say that that would be an objection to him. I think that he would be needed. (Laughter.)

General DAVIS. No, sir; I never heard that, except as I have read it in the testimony of the hearings here, or seen references to it in the testimony.

Senator HOPKINS. It is plain, at any rate, that he was the man in charge when the Commission got swamped in failing to comply with the requisitions from the Isthmus.

Senator MORGAN. Who is your informant in that regard?

Senator HOPKINS. The Secretary has just stated that, as I understand it, this morning.

Secretary TAFT. Yes, sir.

Senator HOPKINS. The Secretary, right here, just stated that this morning.

Senator MORGAN. That it was Redfern's fault that these bids were not opened?

Senator HOPKINS. Yes.

Secretary TAFT. I do not say that it was his fault, in the sense that he could have done more than he did, but that that is where the defect occurred. It arose from his lack of experience and from the fact that there was not a sufficient organization under him to do the work.

Senator MORGAN. I have understood that after those biddings were opened and sent out and were responded to that the difficulty occurred from the sudden congestion of freight arising at the Isthmus?

Secretary TAFT. No, sir; not at all. That was a difficulty which was due to an entirely different cause. The great difficulty that Mr. Wallace complained of, and properly complained of, was the failure to supply him with material. That was due to the fault of the lack of organization of the purchasing department of the old Commission, and Mr. Redfern was at the head of that organization. Now, whether he was to blame or not is a question I have not gone into myself. I do not know.

Senator MORGAN. Were you the Secretary of War while this defective organization was in existence?

Secretary TAFT. I was.

Senator MORGAN. How did it happen that you did not make a better organization?

Secretary TAFT. Because I did not know about it. I can not organize a purchasing department for a commission that is charged under the law with the duty of carrying on work of that sort. I had some other things to do, which I can specify if the committee desires it.

Senator DRYDEN. Mr. Secretary, did the Commission have power to discharge Mr. Redfern if they found him inefficient and to appoint another in his place?

Secretary TAFT. Yes, sir; they had full power.

Senator DRYDEN. Then the Commission is primarily responsible for any lack of business methods and for the failure to supply these goods?

Secretary TAFT. Yes, sir.

Senator SIMMONS. Mr. Secretary, Mr. Redfern was engaged as purchasing agent, as I understand?

Secretary TAFT. Well, Senator, he acted in that capacity. Whether his title was that of purchasing agent, or whether he was on the rolls as a clerk or assistant secretary, I do not know.

Senator SIMMONS. Was the purchasing agent responsible for seeing that the things purchased were forwarded, and was not the trouble chiefly that you did not have two departments, one looking especially after the purchasing and another looking after the forwarding of the things purchased?

Secretary TAFT. It is quite true that one of the defects in the organization was that there were not people charged with the duty of going out and forwarding the goods; but I do not think that the persons who were engaged in the actual purchasing can be said to have fulfilled the duty of a proper purchasing department, for the reason that when Major Gallagher came in, as he has already testified before you, and as the exhibits that I have put in show, he found requisitions in Mr. Redfern's custody which had been there for four months, and were unopened—thirty-two of them. So that, while there was a great defect in not having a special bureau, as you have suggested, or a special division of the bureau, as you suggest, for sending people to the places of manufacture and to the main points of shipping to push the shipping, as most constructive enterprises do have, there was also a failure in the bureau here to attend to requisitions that came, so that they were delayed four and five months.

Senator MORGAN. Who had charge of the bureau here?

Secretary TAFT. Mr. Redfern. It was immediately under Admiral Walker, as I understand it, but Mr. Redfern had charge of that bureau. Major Gallagher succeeded him, and found on his desk this accumulation of requisitions. I am not at all blaming Mr. Redfern; I do not want to be so construed. Mr. Redfern was working just as hard as he could, and working nights, I am so advised; but the defect in the organization was such, and his lack of experience was such, that the condition was as I have stated.

Senator MORGAN. Mr. Secretary, when Mr. Wallace began to see these difficulties he made complaint to you?

Secretary TAFT. Yes, sir; he made complaint to me when I was on the Isthmus.

Senator MORGAN. How long was that before the appointment of the new Commission?

Secretary TAFT. It was about four months.

Senator MORGAN. I suppose, of course, you looked into the complaint?

Secretary TAFT. I did, as far as I could, and recommended to Congress that the old Commission be substituted by a new Commission, because, at that time, I was afraid that we could not reorganize the Commission, as we subsequently did.

Senator MORGAN. Mr. Wallace complained at that time that the difficulty was mainly due, as I understand you, to the want of a proper organization?

Secretary TAFT. Yes, sir.

Senator MORGAN. You had the power to direct a proper organization?

Secretary TAFT. I suppose I had; and I spoke to Admiral Walker about it, and Admiral Walker said that a change must be made, and that it must be put in the hands of one man. And so I asked Congress to give the President that authority; and between the two Houses, there was no authority given.

Senator MORGAN. But you had power, under the existing régime, as you exercised it subsequently, to reorganize the entire department?

Secretary TAFT. Yes; we did; and it was with very grave concern and doubt about my power that I entered on that thing. Indeed, I expressed the opinion, in the message to Congress, that such a power could not be exercised. I expressed the opinion that under the application of the Spooner Act there was probably no power in the Executive

to distinguish between the members of the Commission, to pay some more and some less, or to put the executive authority except in the seven members. Subsequently, when Congress refused to act, I examined the law again and conferred with a number of people, and concluded that we would attempt the exercise of the power, which we did.

Senator MORGAN. But you never were satisfied that you were exactly right about it?

Secretary TAFT. I thought it was a case of exigency, that Congress had not seen fit to act, and that perhaps the reason why Congress did not see fit to act was that it thought we could exercise the power which we did exercise.

Senator MORGAN. But you had the power all this time to reorganize what I call the work on the canal—I do not mean to reorganize the Commission, or apportion its duties differently from the Spooner Act, but to reorganize the work on the canal?

Secretary TAFT. Yes, sir.

Senator MORGAN. Very good. And you had four months' notice of it before you commenced?

Secretary TAFT. Yes, sir.

Senator MORGAN. It looks to me, Mr. Secretary, as if the head of the Department there is probably as culpable as Mr. Redfern.

Secretary TAFT. Very well, Senator, if that is your opinion.

Senator MORGAN. From that statement.

Secretary TAFT. I am content to abide your judgment.

Senator MORGAN. I am not passing judgment.

Secretary TAFT. And to receive sentence.

Senator MORGAN. I am putting it in the nature of an inquiry.

Secretary TAFT. If you ask me, as a question, I will state this: I thought I had already explained, but I will explain further, that the President put the matter in my control, under an Executive order, which has been somewhat embarrassing to me, in view of the fact that Admiral Walker took the assignment as a reference—that was his explanation—as a reference by him to me merely as an advisory person, in my personal capacity and not as Secretary of War, and therefore there was more or less objection to personal interference on my part in the organization of the Commission; not that I could not have interfered, and not that I did not at times, when I thought the circumstances called for it; but it produced a condition that was not exactly regular.

However, that would not exculpate me from issuing orders with reference to the organization of a purchasing department and with reference to the selection of the proper man to make the purchase, if I had gone down into the Commission and examined the personnel and had seen what was the difficulty. It seemed to me sufficient to discuss with Admiral Walker, when I came up, the difficulties of which Mr. Wallace complained, with the hope that when they got together again in the Commission those troubles would be remedied. As a matter of fact, I do not remember to have received any complaints at all from Mr. Wallace (his correspondence is all here) except what he said to me in December, 1904; and at that time the failure to supply material was by no means as extensive as it was in April.

The complaints with respect to the supply of medicines I received from the special agent whom I sent down there on the 23d of February, and the change was made as soon as Congress adjourned, on the

3d of April. It is quite possible, as I look back now, that I might have bettered matters, if I had gone down into the Commission and organized a purchasing bureau myself, although I can not say that at that time I had any technical information that would have justified me in knowing how a purchasing bureau ought to be organized.

Senator HOPKINS. And at that time it would have been a little unseemly for you to have done it, would it not Mr. Secretary?

Secretary TAFT. It seems to me so.

Senator MORGAN. Mr. Chairman, I shall have to ask the committee to excuse me at this point.

The CHAIRMAN. Do you expect to return in a little while, Senator?

Senator MORGAN. Yes; I hope to.

Secretary TAFT. If I had known as much about the situation then as I do now I think I might have accomplished something more, and I am not at all attempting to exculpate myself from any delays that may have occurred by reason of my not going down into the Commission and not reorganizing the bureau.

Senator HOPKINS. It was not to be supposed that you would do that, or that you had time to do it, or that you were called upon to do it.

Secretary TAFT. I do not know what the Senator from Alabama would think about that. I am content to abide the judgment of the committee about it.

Senator KITTREDGE. What about the existing Commission? Is it too large?

Secretary TAFT. Yes, sir. It is not a commission organized as it ought to be. I think a commission of three, or, indeed, giving the President the power to do this work by the agents that he himself selects, would be better. The Commission as now organized is working well, but we have organized it by straining, I think, the present Spooner Act, by making four members of the Commission a merely confirming and revisory body and putting the real power in the hands of the chairman and the governor of the Zone and the chief engineer.

Senator KITTREDGE. You think that if Congress should pass an act reducing the membership of the Commission to three, and relieving the President from all restrictions regarding the character of the men appointed, that that would be satisfactory?

Secretary TAFT. Yes, sir; I think that would be better.

Senator KITTREDGE. Would it be satisfactory?

Secretary TAFT. I think, Senator, that ultimately the whole power in regard to the work, except the main questions of policy, ought to be settled on the Isthmus. I think the plan to be adopted ought to be one in which we shall have only a bureau here, with the head of a department to be consulted by cable from the Isthmus when questions of large policy are to be settled. the bureau to act for purchasing, for forwarding, for doing the errands of the real power on the Isthmus. That is the system that prevails with respect to the Philippine government, and it has worked admirably. Of course, what is to be done in the Philippines is not the same kind of thing that is to be done on the Isthmus, but it does involve the furnishing of supplies, and it does involve doing a great many things that are similar in character to the things which have to be done by the local bureau here.

Senator TALIAFERRO. Mr. Secretary, if the Commission is reduced in number to three, is it your idea that the three members should reside on the Isthmus?

Secretary TAFT. Yes, sir. I would have, possibly, one member, whether the chairman or otherwise, with liberty to come and go, with the idea that at times he would wish to come up and consult with the head of the Department who is in charge. I feel, Senator—if I may continue?

Senator TALIAFERRO. Certainly. Go on.

Secretary TAFT. With reference to the head of a department: The head of a department between the President and the Commission—with deference to a different opinion, apparently, by the Senator from Alabama, and with deference also to the opinion of Mr. Wallace—seems to me to be an absolute necessity, for the reason that it is entirely impossible to expect the President to give direct personal supervision to the matters that go on before the Commission, and he ought to have some one about his Cabinet table that, twice a week, would make a report to him of the questions of policy and the details such as come to him with reference to the operations that are going on in the Isthmus and which he is able to gather from the bureau, which is not only a bureau of forwarding, but also a bureau of information.

I think it is wise that that power, which he has exercised without specific authority, should be given to him expressly by legislation, to designate some member of his Cabinet to take that up. And I say some member because it is quite possible that in the changes that occur in a Cabinet from time to time, and the press of duties, that it might be well to assign such duty first to one member of the Cabinet and then to another.

I am very certain that for the purpose of procuring appropriations, for the purpose of being the go-between between the Commission and the committees of Congress, the Appropriations Committee, the Canal Committees, the Interstate Commerce Committee, there should be an active head of the Department to first steer, if I may say so, the Commission in legal methods, governmental methods, and acquaint them with what is necessary; because, ordinarily, the men you take for a great constructive enterprise like that are men who are not used to governmental methods and who have to be instructed and taught how to make the presentation, how to get their evidence, how to file it and record it; so that when questions arise, as they ought to arise and do arise, by investigating committees or appropriation committees, who are entitled to know, that there should be a man to whom that Commission can go and on whose advice they can rely in respect to that matter; and it is utterly impossible for the President to discharge that kind of duty.

Senator TALIAFERRO. Undoubtedly.

Senator KITTREDGE. Under existing law, or under the Spooner Act, to be more definite, has not the President complete power to designate one of his Cabinet as his right hand, so to speak?

Secretary TAFT. I think he has, yes, sir; but I think that it would give that Secretary more prestige with the gentlemen whom he is to control if that authority were given by legislation. That is all. General Davis will recollect the questions as to what capacity I was discharging, whether as a mere friend of the President's, called in to advise him and his employees, or as the head of a Department, with authority to make orders and supervise works.

Senator KITTREDGE. And so far as the Commission itself is concerned, you advise a reduction in number to three?

Secretary TAFT. Yes, sir.

Senator KITTREDGE. And the elimination of all restrictions regarding the character of the men to be appointed?

Secretary TAFT. I do; yes, sir. I observe that question is frequently put: "Is he an engineer?" Well, an engineer is for a certain purpose in construction. As a consulting engineer, he is for the purpose of telling what can be done and what will happen under certain conditions which he knows from his professional attainments.

A constructing engineer is an executive man who, for instance, goes on the Isthmus, and, having professional qualifications as an engineer, also has executive capacity to direct work; not only to know what work ought to be done, but to know how it ought to be done, and to do it. Those positions require an engineer. But the man who has to make the purchases, the man who has to organize the bureaus of purchase, the man who has to organize the bureau of audit, the man who has to select the employees or organize a bureau for doing so, is not necessarily an engineer. On the contrary, such men are usually not engineers, but they are men who have quite as high—and must have quite as high—a capacity for organization, and who must have that most rare quality, that of executive ability in a high degree, trained by previous experience.

Senator KITTREDGE. You would have the headquarters of the Commission so reduced in number at the Isthmus?

Secretary TAFT. Yes. I think that everybody connected with that work in an executive capacity ought ultimately to be on the Isthmus; but I do not think that for the first two years of preliminary work, perhaps for the next six months, to make it two years and a half, that it would be well to keep the chairman of the Commission, as now constituted, on the Isthmus.

Senator KITTREDGE. Would it be necessary or wise for Congress to attempt to define the length of time that each member of the Commission should remain on the Isthmus?

Secretary TAFT. I do not think it would. I think that ought to be left to the President.

Senator KITTREDGE. And under existing law that is in the hands of the President?

Secretary TAFT. Yes, sir.

Senator KITTREDGE. Unquestionably?

Secretary TAFT. It is; and the regulations provide that the governor shall be on the Isthmus, that the chief engineer shall be on the Isthmus, and that the chairman of the Commission shall be there six months of the year and six months in this country. That has not been complied with by Mr. Shonts, with the knowledge and consent of the President and the Secretary of War, for the reason that I have already explained to the committee, that this series of investigations and the necessity for organizing and pushing the machinery and the material and the selection of employees has made this a very important place to be.

Senator KITTREDGE. And I understand that legislation upon that point should be so elastic as to permit the President to have the guiding hand upon that subject?

Secretary TAFT. It seems to me so; yes, sir.

Senator TALIAFERRO. If, under the law, the Isthmus were made the headquarters of the Commission, that would not deny to any member

of the Commission the right to come to the States when his duties called him here?

Secretary TAFT. No, sir; and I do not see any objection to that declaration, because I think that is the proper policy.

Senator DRYDEN. Would you confer upon the chairman of the Commission power superior to that of his associates, or would you clothe the Commissioners with equal power?

Secretary TAFT. I am not prepared to say that under conditions which have prevailed recently—I mean for the last year—it would not be necessary to give to the chairman, as is provided now in the directions of April 1, general executive control. But that was because of the emergencies that existed with reference to these difficulties that I have detailed and the necessity for straightening them out.

I am by no means convinced, however, even by the statement of Mr. Wallace, that it is necessary to endow the head of the Commission or anybody else with complete control like that of a dictator. That is one of the generalizations that you will hear on street corners, mentioned by Mr. Wallace in a letter in which he refers to the appointment of a hundred thousand dollar man who is going to do this work.

I think it is just as well, in determining how this work ought to be done, to consider the example of great constructive enterprises that have been carried on in other directions, and, at the time that I drafted this order of April 1, I consulted Mr. Cassatt—

Senator KITTREDGE. You mean of last year?

Secretary TAFT. Yes, sir; of 1905. I consulted Mr. Cassatt about the organization that he had in respect to that \$200,000,000 enterprise in which the Pennsylvania road is now engaged, in the building of tunnels from Jersey City to New York and from Jersey City to Long Island.

The chief engineer of the road sent me a short statement of how that was done, and there is nobody there with absolute control. They have a chief engineer engaged in the work and then they have some boards of engineers who advise, and things are not done without taking advice. There is no emperor there; there is no dictator, and it is not necessary. I think a board of three, with each member at the head of a department exercising the same kind of authority that the head of a department in the Government exercises subject to the control of the President, in this case subject to the control of the whole board, is quite sufficient authority to carry this enterprise through.

Senator KITTREDGE. Following the inquiry that I made of you a moment ago, ought not the law to be left so elastic as to enable conditions as they arise to be met?

Secretary TAFT. Yes, sir; that is just what I think. I quite agree with you on that, Senator.

Senator KITTREDGE. Leaving the details to be worked out by the Commission, under the direction of the President?

Secretary TAFT. Yes, sir.

Senator KITTREDGE. Does that meet your view?

Secretary TAFT. Yes, sir.

Senator KITTREDGE. During the history of the Commission two men were appointed to represent the Government in the matter of the condemnation of land on the Zone?

Secretary TAFT. Yes, sir. They were appointed as arbitrators.

Senator KITTREDGE. Under the provisions of the treaty?

Secretary TAFT. Yes, sir.

Senator KITTREDGE. Do you remember what that cost this Government? I do not mean the price of the land, but the machinery to determine the price.

Secretary TAFT. I think they were given \$10 a day and their expenses.

Senator KITTREDGE. And sent from this country?

Secretary TAFT. And sent from this country.

Senator KITTREDGE. Do you see any objection to duties of that character being imposed upon members of the Commission?

Secretary TAFT. The difficulty about that, Senator, is this: I might have selected officials, but the only reason why I did not was that the Commission is more or less a party, and on a board of arbitration I thought it was wiser to take men who had no interest. I do not suppose the Commissioners would have had any interest, but, occupying a position where they wanted to get the property as cheaply as possible, it seemed to me that it was wiser to take somebody who had not that motive.

Senator KITTREDGE. What about the arbitrators appointed by the Republic of Panama?

Secretary TAFT. I do not know about them.

Senator KITTREDGE. And their attitude toward the proposition?

Secretary TAFT. Of course they belonged to that country, and they would have that natural bias; but so would the Americans.

Senator KITTREDGE. Would you have any objection to a provision of the character I have indicated being inserted in the law?

Secretary TAFT. That members of the Commission—

Senator KITTREDGE. That they may do such work—put it in the discretion of the President.

Secretary TAFT. No, sir; I do not think there would be any objection, though I would rather have men who are not members of the Commission.

Senator KITTREDGE. Is not that going to be an expensive proposition, possibly?

Secretary TAFT. No, I do not think so, because if you adopt the lock canal you are going to have a good deal of work of that sort, and you might very well afford to pay two men who will act on that board of arbitration four or five thousand dollars a year for the purpose, and just let them go down there and live and acquaint themselves with the property.

Senator KITTREDGE. Suppose there was a case now and then, would it be advisable, in your opinion, to select arbitrators for each case, and send them down there on that trip?

Secretary TAFT. Oh, no. But this case upon which I send these arbitrators was a very pressing case.

Senator KITTREDGE. I understand that.

Secretary TAFT. General Davis called it to my attention. It was the purchase of the Diaz tract, and we wanted that; and also the purchase of the Tivoli tract, as I recollect it, and we desired that on which to place a hotel.

Senator KITTREDGE. You understand that these questions are not

asked with any notion of criticism, Mr. Secretary, but simply to look after the future a little bit.

Secretary TAFT. Yes; I understand. My impression is, Senator, that it would be better, especially after the construction begins, to just create two places and pay them a given salary. Of course you would have to create four places, and if you did that, that would add to the expense for the Panamanians too, because, as I recollect, under the treaty, we pay the expenses of all.

Senator KITTREDGE. I understand.

Secretary TAFT. The Panama authorities claimed, after I had made that appointment and sent those men down there, that they were entitled to draw \$10 a day forever [laughter]—that is, that it was a permanent appointment. But I decline to accede to that view, and allowed them their per diem for the days that they were occupied.

Senator KITTREDGE. Would you have objection to the insertion of a provision of that character, placing it in the discretion of the President?

Secretary TAFT. Not at all. I think it would be a good thing. I think it ought to be acted on in some way.

Senator TALIAFERRO. Would not that be taken as a suggestion that Congress thought that the members of the Commission should act as arbitrators?

Secretary TAFT. I am not sure but it would. Perhaps I make too much of it, but it does seem to me that where you call on judges, where you create judges, for that is what you are doing—judges, of course not of a court, but nevertheless to occupy a quasi judicial capacity—that you ought not to make a provision looking to the selection of men who represent the United States in a partisan capacity; I mean, whose allegiance is to the United States and who are bound to make the cost as little as possible.

Senator TALIAFERRO. I think it would create a bad impression to use the members of the Commission to arbitrate questions of that kind on the Isthmus.

Secretary TAFT. It seems to me that it would be better not to include them.

Senator KITTREDGE. What do you say about the question of extradition from the Zone, the land that we have acquired, to the Republic of Panama and to this country? What legislation, if any, should be enacted?

Secretary TAFT. I think that there ought to be a treaty of extradition somewhat more extensive than the one now as between the Zone and the Republic.

Senator KITTREDGE. Suppose a crime is committed in this country, in one of the States or Territories, or in the District of Columbia, and the criminal flies to the Zone. In what manner is he brought back?

Secretary TAFT. He ought to be brought back, and I am not sure whether the law provides for it now or not. I think not. Do you know, General?

General DAVIS. I think the first extradition treaty covers that.

Secretary TAFT. No; the Senator is speaking of a requisition law, properly speaking, for taking convicts, or persons charged with crime, from the Zone to the United States, and vice versa.

General DAVIS. Yes. Well, there is nothing in the treaty about that.

Secretary TAFT. I think, Senator, that there ought to be a provision in that regard quite like the one, *mutatis mutandis*, that prevails now with respect to the requisition of fugitives from justice in one Federal district, for the production of their bodies in the district where they are to be tried and where the crime was committed.

Senator KITTREDGE. Would a provision of law making the Zone, for the purpose of extradition, a Territory of the United States meet that condition?

Secretary TAFT. Yes; you might put it in the form of making it a Federal district of the United States for requisition purposes, a judge of the supreme court of the district to exercise the same powers in that respect as a district judge of the United States.

Senator TALIAFERRO. Making the Zone a district?

Secretary TAFT. Yes, sir.

Senator HOPKINS. Making the Zone a district for that purpose—not generally?

Secretary TAFT. Yes; for that purpose.

Senator KITTREDGE. Is there anything in that view that would injure the sensibilities of our neighbors down there?

Secretary TAFT. Not at all.

Senator KITTREDGE. In the cities of Colon and Panama and the Republic of Panama?

Secretary TAFT. Not at all; no, sir.

Senator KITTREDGE. When was the civil-service law or order of things put in effect in the Isthmus or Zone?

Secretary TAFT. The Commission organized its bureau and, although it was a question whether the law did not *ipso facto* apply when the Commission was created, I do not think there was any extension of the civil-service law to it until November, or perhaps it was October, 1904. Then it was extended, with quite a number of exceptions. When I went down to the Isthmus I talked with Mr. Wallace about that, and he said that he did not think the exceptions were wide enough. I said to him that whatever he thought ought to be excepted, if he would send me a statement, I should be glad to see incorporated in an amended Executive order. Instead of doing that two representatives of the Civil Service Commission went down to the Isthmus, conferred with Mr. Wallace, and drew up a project for the proper operation of the civil-service law.

They were to have examinations on the Isthmus, they were to have a committee of examinations on the Isthmus; but the truth was that that was never put into effect, and the truth was further that much as it has been the custom to criticise and abuse the civil-service board for failure to supply competent employees, the civil-service law, though by Executive order made to apply, was never, in fact, observed, except in regard to clerical employees. As you will see from the statement of Mr. Cooley and Mr. Pepperman, they made arrangements by which Mr. Wallace was enabled to send for men and make selections, to go out and sit on the committees of examination, and determine employees. The real difficulty was that the civil-service board was not in the least adapted to the selection of those men who were competent for the work which was to be done on the Isthmus, if I may designate it as outside work. Their list of eligibles was altogether short. They did not have any. And when they did not have any, they would say to the Commission: "You can employ such men as you see fit."

It got to such a point that they were pressing so for employees that there were six or seven stenographers that were needed; and during the yellow fever excitement stenographers did not come forward with great alacrity to go down there, and the board said: "We have not any stenographers who will go, but we have a number of applicants," and without any examination some six or seven applicants were sent down, after having applied to the Commission directly, without any examination at all. I only give that instance to show, first, how utterly inapplicable to outside employees the civil-service law and the machinery of the Civil Service Commission were, but also to show that there were no restrictions whatever; that the Commission really employed those whom they could get.

The difficulty was that they could not find in any way the men who were competent. There was a great demand for labor in this country. For instance, there came up an order, I recollect, that Mr. Edwards brought to me for a hundred track foremen. That was a year, according to my recollection of the statistics, when there was more railroad construction going on than ever before in the history of the country, and the only way you could get track foremen was to send out men and draw them away from the various railroad companies who were using them. By advertisement you could not get them. You could only get them by agents, and that is what had to be done when the new Commission came in. The civil service did apply, but finally, when Mr. Stevens came up, in November, 1905, we talked it over with him, and we made an order that nobody should come under the civil-service law except the clerical employees and the inside employees of the Commission.

Senator KITTREDGE. So that the civil-service régime continued for about a year?

Secretary TAFT. If you can call it a régime in which they did not exercise any power; yes.

Senator KITTREDGE. I understand the circumstances.

Secretary TAFT. Yes.

Senator KITTREDGE. At whose instance was that method of employment inaugurated?

Secretary TAFT. At the instance of the President.

Senator KITTREDGE. Did not the fact that track foremen and mechanics and laborers practically of all sorts were under civil service interfere with the securing of help of that character?

Secretary TAFT. Practically not. For instance, I see that Mr. Wallace in his evidence says that there were 25 track foremen sent there by the civil service. The records of the Civil Service Commission show that they sent 2 track foremen there, and that they are still employed there. The truth was—and if you will call Mr. Pepperman I have no doubt he will so testify—that they simply evaded the law; that they got the men where they could get them, and they could not get—because they did not have the organization—the men that they needed. They applied time after time to the Civil Service Commission, and the Civil Service Commission could not furnish them.

Senator KITTREDGE. My question is whether the fact that they were compelled, under that order, to apply to the civil service for the class of employees of which you speak interfered with the ready procurement of those men?

Secretary TAFT. I think, Senator, that there ought to be a provision in that regard quite like the one, *mutatis mutandis*, that prevails now with respect to the requisition of fugitives from justice in one Federal district, for the production of their bodies in the district where they are to be tried and where the crime was committed.

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Senator KITTREDGE. My question is whether the fact that they were compelled, under that order, to apply to the civil service for the class of employees of which you speak interfered with the ready procurement of those men?

Secretary TAFT. I am not prepared to say that it did not give them an opportunity to say that they applied to the civil service and could not get them; but they did make efforts. Every man that Mr. Wallace sent up here on vacation he would ask to go about and see if he could not employ men. But it was exceedingly difficult, without any restriction of any sort, to get the men that were needed.

Senator TALIAFERRO. My understanding is that there was some understanding between the Commission and the civil service by which certain of these men were selected by the Commission and were then certified by the Civil Service Commission.

Secretary TAFT. The Civil Service Commission, I am bound to say that, for I am personally cognizant of that, were most compliant in every way with the desire to lift the restrictions of the law and let anybody go down there that the Commission would take.

Senator TALIAFERRO. Yes.

Secretary TAFT. But they were not equal to the duty of selecting eligibles. They did not have them on their lists.

Senator KITTREDGE. It was not in their line?

Secretary TAFT. It was not in their line; that is the truth of it, except for clerical employees.

Senator KITTREDGE. I am not speaking of them.

Secretary TAFT. Yes. They have an eligible list of locomotive engineers and that sort of thing, but they have no eligible list of track foremen.

Senator KITTREDGE. Did you ever see an examination of the Civil Service Commission prepared for applicants for that sort of work?

Secretary TAFT. I do not remember to have done so; no, sir.

Senator KITTREDGE. When this civil service was inaugurated at the Isthmus, was that without a protest on the part of the officials of the Government or the employees of the Commission?

Secretary TAFT. Well, I have stated what Mr. Wallace said to me.

Senator KITTREDGE. Did your inquiries extend beyond Mr. Wallace?

Secretary TAFT. No, sir; I do not think they did. I do not remember. I may have talked with some of the Commission. I do not know. Mr. Wallace was the chief person in interest, the man who knew most about it, and I conferred with him.

Senator KITTREDGE. And he objected to the installation of the civil-service system?

Secretary TAFT. No; he said he was in favor of the principle of the civil service, but that he thought there ought to be wider exemptions, to include the practical men—the foremen and the heads of departments and that sort of thing. When I say departments, I mean those divisions or bureaus on the Isthmus. And I said to him that any exceptions that he wanted made would be made. Thereupon, as I say, a committee of the civil service went down and agreed with him on a plan which they never worked out. I think Mr. Wallace testified, in his own evidence before the committee here, that he found that the civil service people were very anxious to accommodate him in every way; and that is true.

Senator KITTREDGE. The civil service that Mr. Wallace had in mind was, possibly, the civil service that maintains in railways?

Secretary TAFT. Well, he had the official civil service in mind, because that is what he was dealing with.

Senator KITTREDGE. You spoke yesterday, Mr. Secretary, regarding the cost of doing railway business across the Isthmus?

Secretary TAFT. Yes.

Senator KITTREDGE. And gave the figures as \$3.06 a ton, as I made the memorandum?

Secretary TAFT. Yes, sir. That you will find in the report to me, made by the traffic manager of the road.

Senator KITTREDGE. I was about to ask you whether you are familiar with the details of that matter, or whether you would prefer that it should be taken up with Mr. Drake.

Secretary TAFT. No, sir; I do not believe Mr. Drake knows, either. You will have to send for Mr. Walker in regard to that.

Senator KITTREDGE. What is his business?

Secretary TAFT. He is the traffic manager of the Panama Railroad.

Senator KITTREDGE. The reason I have in making the inquiry is that the cost seems very large.

Secretary TAFT. Well, it is; because it includes the fixed charges, I suppose. Yes; it must include the \$5,000 a mile.

Senator KITTREDGE. The \$5,000 a mile is the amount that the railway pays for its concession?

Secretary TAFT. Yes, sir.

Senator KITTREDGE. That is what you mean by fixed charges, as well as the interest on bonds?

Secretary TAFT. No, sir. I do not include those.

Senator KITTREDGE. Do you not mean that?

Secretary TAFT. No, sir. At least, that is what Mr. Walker told me. I did not go into the figures at all. You will find in his statement to me, if you read it—

Senator KITTREDGE. Yes; I read that.

Secretary TAFT (continuing). That he says that the charges must be made high because the cost is \$5,000 a mile on 50 miles.

Senator KITTREDGE. I am not proposing to conduct an examination upon that question, as I will take it up later with the railway people, but simply to call your attention to what seems on the surface to be the fact that the actual cost of transportation, independent of fixed charges to which you refer, is much higher than obtains in this country.

Secretary TAFT. Of course it is.

Senator KITTREDGE. Have you in mind the conditions that make inevitable that result?

Secretary TAFT. I never examined it, but I suppose, of course, that would be true, when you have \$5,000 a mile, and a railroad run 2,000 miles away from your supplies, and with the necessary force required to run 50 miles, which would not be any larger if you ran 200 miles, probably—all that would increase the cost of running the road. The cost of its construction, everything, was great; and, as I say, we have reduced very considerably the cost of transportation. I do not think we have reduced it enough, but—

Senator KITTREDGE. You mean by cost of transportation the cost to the shipper?

Secretary TAFT. Yes; to the shipper.

Senator KITTREDGE. I am speaking now about the cost of operation.

Secretary TAFT. Yes; so am I.

Senator KITTREDGE. The cost to the company.

Secretary TAFT. So am I.

Senator KITTREDGE. And not to the shipper.

Secretary TAFT. Yes.

Senator KITTREDGE. As I recollect, you stated that the earnings of the steamship company and the railway company were divided.

Secretary TAFT. Yes, sir.

Senator KITTREDGE. Fifty-five per cent to the steamship company and 45 per cent to the railway company, or was it the reverse?

Senator TALIAFERRO. Forty-five per cent to the railway company, I think.

Secretary TAFT. I think so.

Senator KITTREDGE. That was the way I had it here. I did not know whether it was accurate. Was that a purely arbitrary division?

Secretary TAFT. That was an adjustment made by Mr. Shonts.

Senator KITTREDGE. Why was there a necessity for any division to be made?

Secretary TAFT. In order to determine what would be fair to the other steamship companies, in order to put them all on a level. What we did not want to do was to establish a monopoly for the Panama Railroad ships, and now they all come in there on the same basis.

Senator TALIAFERRO. Also for the purpose, I fancy, Mr. Secretary, of providing a through rate?

Secretary TAFT. Yes, sir; as well. It was an adjustment that I was not able to investigate the justice of, because it is really a traffic question, and I am not an expert in that direction. Did not Mr. Shonts testify on that subject?

Senator TALIAFERRO. I think he did.

Senator KITTREDGE. He did to some extent, but I do not remember that he touched that precise point.

Secretary TAFT. He will be back, and you can call him again.

Senator KITTREDGE. I wondered if that was a purely arbitrary division, or whether it had reason back of it.

Secretary TAFT. I think he thought it was a fair division after consulting with Mr. Walker, who has had a great deal of experience with it. But what I was anxious to bring about, and what I think has been brought about, was an equitable arrangement by which the other steamship companies—the Royal Mail Steamship Company, the Fruit Line Steamship Company from New Orleans, and the Atlas Line—might not complain that in the transportation of property across the Isthmus we were excluding them by charging a higher rate on the railroad for them than we were to our own shipping line.

Senator KITTREDGE. Would not the charge for transportation on the railroad be based upon the cost of doing it?

Secretary TAFT. We charge each line 45 per cent of the total rates that they charge from the place from which they ship in the United States to Panama, delivered on the other side.

Senator KITTREDGE. Why should not that charge from Colon to Panama and the reverse be fixed as an independent proposition?

Secretary TAFT. It is.

The CHAIRMAN. Would it not be better to take this matter up with the railway people, who will be here next week?

Senator KITTREDGE. Certainly.

The CHAIRMAN. The Secretary is almost everything, but I do not suppose he pretends to be a traffic man.

Secretary TAFT. I think if you will call Mr. Walker that he can give you all the information you want on this subject.

The CHAIRMAN. Who is Mr. Walker?

Secretary TAFT. He is the traffic manager of the Panama Railroad Company.

The CHAIRMAN. He lives in New York, I suppose?

Secretary TAFT. Yes. He has been there for a great many years.

(Thereupon the committee adjourned until Tuesday, April 24, 1906, at 10.30 o'clock a. m.)

ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Tuesday, April 24, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Hopkins, Morgan, Taliaferro, and Simmons.

TESTIMONY OF EDWARD A. DRAKE, ESQ.

(Mr. Drake had been duly sworn at prior hearings of this committee and was informed that the oath then administered was still binding.)

The CHAIRMAN. Mr. Drake, will you please state your name, your address, and your occupation?

Mr. DRAKE. My name is Edward A. Drake; my address is 322 West One hundred and first street, New York.

Senator MORGAN. Mr. Chairman, I would like to state at this point that this committee examined several of the witnesses that have been examined at this time, and many others, on this same subject, two years ago or three years ago, whenever it was; and all of those examinations bearing upon the same topic ought to be open to be used in the Senate without the necessity of their being repeated here.

The CHAIRMAN. Yes.

Senator MORGAN. It would save a great deal of time and trouble if we could consider that all of these examinations that apply to this case and any testimony that has been taken before this committee for the use of the Senate may be used in the same way as if they had been taken at the present hearings.

(The committee ordered that Senator Morgan's suggestion be adopted.)

Senator MORGAN. Mr. Drake, you spoke, before the committee came to order, of some duties you had to perform to-morrow. Are they in connection with railroad affairs?

Mr. DRAKE. Entirely so, sir.

Senator MORGAN. What will you have to do to-morrow?

Mr. DRAKE. On the 24th and 25th, in addition to the ordinary business of the company, of which I am the operating officer, I have to make an award under the invitations for bids and proposals submitted for the supply of coal for the railroad company for the ensuing twelve months—it is approximately 125,000 tons—and the transportation of the 125,000 tons to the Isthmus. Then I have to consider and pass on the placing of an offer that we have for the insurance of the fleet—the five vessels of the Panama Railroad Company—an offer involving insurance of two millions and a half of dollars. Both of those matters,

of course, have to be done subject to the approval of the president of the company and have to be prepared to be submitted to him for his approval.

Senator MORGAN. Who is the president of the company?

Mr. DRAKE. Mr. T. P. Shonts, the chairman of the Isthmian Canal Commission.

Senator MORGAN. Has he been elected president?

Mr. DRAKE. Yes, sir.

Senator MORGAN. By whom?

Mr. DRAKE. By the board of directors.

Senator MORGAN. The board of directors elected Mr. Shonts president?

Mr. DRAKE. Yes, sir:

Senator MORGAN. And all of these transactions of yours, to-morrow—

Mr. DRAKE. And the next day, sir.

Senator MORGAN (continuing). And the next day will be subject to approval by Mr. Shonts as president of the company?

Mr. DRAKE. Yes, sir. I should have stated, perhaps, what my position is in the company, sir; it would make it clearer. I am the secretary and treasurer of the company and assistant to the president; and in the last capacity, under his authority, I am exercising all the functions of the operating officer. I am the officer in charge.

Senator MORGAN. Is there any such office provided for by the by laws as assistant to the president?

Mr. DRAKE. The board of directors have the power, under the by-laws, to appoint such additional officers as may be necessary.

Senator MORGAN. Have you been appointed by the board?

Mr. DRAKE. My appointment was reported to the board and confirmed.

Senator MORGAN. By resolution of the board?

Mr. DRAKE. That I do not recall, sir. The president reported to the board that he had appointed me assistant to the president.

Senator MORGAN. There was no resolution of the board on the subject?

Mr. DRAKE. No, sir; that is, not of record. He reported it to the board.

Senator MORGAN. I am speaking now of matters of record. Nothing of that kind is worth anything unless it is of record.

Mr. DRAKE. I have been exercising all the functions of assistant to the president for a number of years.

Senator MORGAN. As assistant to the president you are in charge of the business operations of the railroad in New York?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And elsewhere?

Mr. DRAKE. No, sir; the vice-president and general manager, Mr. Stevens, who was elected at the last board meeting, and who was appointed general manager by the board of directors and elected a director and vice-president at the annual meeting, is in charge of the operation of the railroad on the Isthmus. I have no authority over him at all, sir.

Senator MORGAN. Is there any resolution to that effect?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You have it here?

Mr. DRAKE. Yes, sir.

Senator MORGAN. I wish you would let me see it.

Mr. DRAKE (after examining minutes). No, sir; the report of the action of the board by which Mr. Stevens was elected to succeed Mr. Wallace is in the draft of the minutes of the annual meeting that was held in April last. That has not yet been approved. Those minutes have not been submitted for approval and are not entered in the book. The fact is that we got into trouble once before by sending out an unapproved draft of minutes, and now we do not send forward and do not emit any draft of minutes until they have been approved by a subsequent meeting and are entered in the book.

Senator MORGAN. Approved by a meeting of the board of directors, you mean?

Mr. DRAKE. Approved by a subsequent meeting of the board of directors.

Senator MORGAN. So that this order that you speak of, I suppose, was drawn up in writing?

Mr. DRAKE. Oh, yes, sir; it was drawn up in writing and signed.

Senator MORGAN. But Mr. Stevens's appointment has not yet been confirmed by the board of directors?

Mr. DRAKE. By a later action of the board; he was appointed by the board. The action was taken at that meeting. The record of the action has not yet been approved by a subsequent meeting, so that it is not entered in the book yet.

Senator MORGAN. He is in charge of the operations of the railroad on the Isthmus?

Mr. DRAKE. On the Isthmus; yes, sir.

Senator MORGAN. That includes everything relating to seaboard transportation in that vicinity—in the bays, etc.?

Mr. DRAKE. Absolutely. He is in charge of the property of the company—in charge of its operation on the Isthmus; he holds a power of attorney from the railroad company here, issued in regular form, as required by our contract of concession, vis-a-vis of the Republic of Panama, and authorized in every way to represent and operate the railroad company in its capacity as a separate corporation and vis-a-vis of the Isthmian Canal Commission as well. He conducts all the business of the railway on the Isthmus.

Senator MORGAN. Does that include the regulation of the steamers that belong to the railroad company?

Mr. DRAKE. The steamers are operated, Senator, under the charter—under the certificate of incorporation—which allows the railroad to operate such steamers as may be necessary and convenient in connection with the road. The steamers are of American registry, are domiciled in the United States, and are operated from this end. He has charge of the steamers when they are at that end. The captains, with their letters of instruction, sail from here. Their sailing letters direct them to report to the vice-president and general manager of the road at Colon, by whom they will be dispatched on their return voyage.

Senator MORGAN. Yes; so he has no control of it except there?

Mr. DRAKE. No, sir.

Senator MORGAN. He receives whatever is sent out?

Mr. DRAKE. That is right, sir.

Senator MORGAN. And then he dispatches the vessels on their return voyage?

Mr. DRAKE. Loaded; he handles them there in the harbor.

Senator MORGAN. Where are these steamers controlled?

Mr. DRAKE. They are controlled from here, sir.

Senator MORGAN. From New York, you mean?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Do you mean Washington or New York?

Mr. DRAKE. New York. They are controlled by the board of directors. I act for the board of directors; they are operated by me as the operating officer.

Senator MORGAN. Is there anybody in control of you in that matter?

Mr. DRAKE. Absolutely, sir; I am subordinate to the president.

Senator MORGAN. You are supposed to take your orders from the president?

Mr. DRAKE. Yes, sir.

Senator MORGAN. But in fact you do what you think is proper, and then you report your action to the president for his confirmation or his disapproval?

Mr. DRAKE. Yes, sir. That ought to be a little differently stated, if you please. I have been in charge of the operation of the line since it was inaugurated, in 1893, and I am operating the line now; and whatever I do that meets with his disapproval I learn it very quickly. He is constantly informed of what is going on.

Senator MORGAN. I have no doubt that they are very fortunate in getting you.

Mr. DRAKE. Thank you, Senator; that is very kind.

Senator MORGAN. But I simply wanted to get at the situation. Now, who prescribes sailing days and rates of freight for all steamers?

Mr. DRAKE. The traffic manager, under my approval.

Senator MORGAN. Who is the traffic manager?

Mr. DRAKE. Mr. R. L. Walker.

Senator MORGAN. Is he in New York?

Mr. DRAKE. Yes, sir. He regulates the traffic of the railroad; he establishes the rates; that is, he performs all of the functions of a traffic manager, always subject to revision. We have traffic arrangements, working arrangements, with nine or ten lines—nine lines on the Atlantic side and three lines on the Pacific side—besides our own line. Recently (unfortunately, from my standpoint) two of the wealthiest foreign lines have been admitted to competition with the company's own line between New York and Colon. That has been in the development of the "open door" policy; and they are sharing the business with us now that used to belong to us absolutely.

I have always felt that no court in the land, except for reasons of policy, would compel a line to admit outside lines to competition with its own branch. But under the policy of the United States of the "opening of the door" on both sides of the Isthmus, which is now the policy of the railroad company, these two lines have been admitted, and they are carrying a large portion of the high-grade passenger business, because our ships are so often so nearly filled with employees of the canal.

Senator MORGAN. To what two lines do you refer?

Mr. DRAKE. The Atlas Branch of the Hamburg-American Line and the Royal Mail Steam Packet Company.

Senator MORGAN. Does that traffic arrangement obtain on both sides of the Isthmus?

Mr. DRAKE. Yes, sir. Do you mean the "open door?"

Senator MORGAN. I mean, have you a similar traffic arrangement on the west side—on the Pacific side of the Isthmus?

Mr. DRAKE. Yes, sir; the traffic arrangements are the same on both sides.

Senator MORGAN. With what vessels; the same companies?

Mr. DRAKE. No, sir; they are different companies on each side. The railroad company is in the position of making bipartite arrangements. That is, it arranges with the cocarriers on the Pacific side that it will bring all the freight obtainable, at through rates that are established by agreement and that are thereafter prorated, to the western terminus (I am taking what is called the homeward voyage now), under bills of lading which are issued by the consent of the other two carriers, the Panama Railroad Company and the Atlantic Line, that takes the freight away from the Panama Railroad on the Atlantic side. That cargo is then carried to destination, is delivered by the final carrier, the freight money is collected, and is distributed in account to the participants.

Senator MORGAN. Are there certain ports of delivery on the Pacific and on the Atlantic to which these traffic agreements relate?

Mr. DRAKE. Yes, sir. The home port of each of the lines is of a distinct nationality, except in the case of England. For instance, we have an Italian line, we have an Austrian line, we have a Spanish line, we have a French line, we have three English lines, we have our own line from New York, and two foreign lines from New York to the Isthmus.

Senator MORGAN. But you have not traffic arrangements with all of these lines?

Mr. DRAKE. We have traffic arrangements with all of them, sir. They are arrangements that have been in existence for fifty years in some cases. Those arrangements are similarly made; similar arrangements are made with the carriers on the Pacific side. That is, they bring the freight to us, leaving to us the option to give it to any one of the lines.

Senator MORGAN. Name the carriers on the Pacific side with whom these traffic arrangements are made.

Mr. DRAKE. I should also have named the United Fruit Company from New Orleans. The carriers on the Pacific are the Pacific Mail Steamship Company from the north, the Pacific Steam Navigation Company from the south, and the Chilean Company—the South American Steamship Company, it is called. Its name is the *Cia Sud-Americana de Vapores*; but if you will allow me I will call it the "South American Steamship Company," which is the translation.

Senator MORGAN. Yes; please.

Mr. DRAKE. Those are the three companies on the other side. We have expected all along that other companies would be induced to come in, but they have not yet done so.

Referring to my old testimony, Senator, which you perhaps will readily recall, I have stated once before this committee that thus far, although there was an unlimited prospect for business to develop on the Pacific coast, there had not come business enough for more lines than were operating in connection with us. That is evidenced so far

by the fact that we have not been able to induce any other lines to come in. There are two or three lines that are operating independently up and down the coast that sail around to Magellan, that go to Europe via Magellan—the Kosmos line, Lambert & Holt, and the Chargeur Reunis; that is a French line. Those latter lines do not operate in connection with us.

Senator MORGAN. Are the arrangements with each of these lines of ships that you speak of the same in every case?

Mr. DRAKE. In every case; yes, sir.

Senator MORGAN. Now, if you will just describe to the committee what a traffic arrangement is, we will get to the merits of the subject.

Mr. DRAKE. There are two phases of a traffic arrangement. One may be by hard and fast contract, naming all the parties and their obligations. That was the form that we adopted for a great many years, and that was in operation on both sides, binding all of the parties to do certain things, up to 1893 or thereabouts. In 1893 we canceled all of those arrangements because they were so voluminous that a great many of their conditions were dead letters. They were all canceled, and what are known as working arrangements were established by exchanges of letters stating that existing practices would be continued subject to ninety days' notice of termination by either party.

Senator MORGAN. It is the old traffic arrangement then, in substance?

Mr. DRAKE. In substance; yes, sir.

Senator MORGAN. Continued by correspondence?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Until you notify them of its termination.

Mr. DRAKE. And one thing I would like to make plain is that the railroad company is not trammelled now by any agreement which it can not break on ninety days' notice.

Senator MORGAN. Why do you say it is not trammelled?

Mr. DRAKE. I mean it is not hampered. Once before we had a contract that required six months' notice, or a year's notice. We are now on what might be called the customary reasonable-time notice.

Senator MORGAN. You have given up a fixed period for the termination of the arrangements, and you now exercise the right of giving a reasonable notice of termination?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. I notice here, in the minutes of date January 9, 1902, a statement to the effect that "The treasurer's statement of this date was presented, showing \$444,855.51 cash assets on hand."

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. What were the items going to make up that total amount?

Mr. DRAKE. I had very little information before I came here as to what would be required on the financial point, and I have brought what I thought might be required. This is such a statement as would be presented at that time [exhibiting statement to committee]. It is the statement of date of April 23. It shows the cash assets of the company as follows: Cash at banks, \$25,185; cash with the Mercantile Trust Company at interest, \$280,000; cash with the Mercantile Trust Company at interest, \$20,000. (That \$20,000 is money that has been set aside to redeem bonds that have been called, but until the bonds are presented we put it in a separate account to draw interest

so as to make an earning.) Deposits with Credit Lyonnaise, in London—all of the connecting carriers remit to our London bankers in sterling, and we draw bills of exchange against their remittances, and they advise us from time to time of how much money they have in hand there—as per letters of advice to April 14, £2,812 11d., \$13,638.42. Liquid cash to-day (that is, yesterday), \$338,823.46.

In addition, there are held in the treasury 100 Panama 6 per cent subsidy bonds and 628 of the Panama 4½ per cent bonds. There is due to the Isthmian Canal Commission for cash loaned to the Commission for account of new equipment and construction, March 8, \$160,000; March 20, \$190,000; total, \$350,000. That I am prepared to explain when I am asked to do it—I mean, why there is an indebtedness on the part of the Commission. The cash assets to-day are \$338,000, liquid cash to be drawn against. That statement means that at that time, in addition to the free bonds in the treasury, there was that amount of cash in bank.

Senator MORGAN. How much cash was there in bank yesterday?

Mr. DRAKE. Yesterday? \$338,000, sir.

Senator MORGAN. Why is it necessary to keep that large amount on hand?

Mr. DRAKE. It has always been the policy. One of the things I omitted to say, perhaps, is that the Panama Railroad Company has always heretofore been more ready in paying its bills than it is able to be now. On the 10th we pay one class of bills and on the 20th another. Before I came away last night I signed checks for \$65,000 for current bills that will be drawn against there, the vouchers having been approved and audited, that will be drawn from this fund.

In addition I have bills for \$120,000 for supplies for the steamers and for Isthmus commissaries that will have to be paid to-morrow. Somebody else will have to sign them in my absence. Mr. Shonts will probably do so; but I would like to say here, Senator, if I may be allowed, that it has been the policy of the railroad ever since I have been connected with it to maintain large cash reserves, and I think there has not been a time—there is certainly not a time that I recall; I could easily prepare a list to show it—when the balances have not been in the neighborhood of five or six hundred thousand dollars always employed at interest, and we have run as high as a million dollars in bank of cash assets.

The CHAIRMAN. That money that is at interest is all subject to check, is it not?

Mr. DRAKE. Entirely, sir; subject to two signatures.

The CHAIRMAN. It is subject to check on demand?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Now, Mr. Drake, you said you would give us a description of what the traffic arrangements were—what they amounted to, what they mean.

Mr. DRAKE. Yes, sir. The purpose of the arrangement and the effect of the arrangement is this: The Panama Railroad Company wants all the business that it can get. It needs it in order to earn money enough to pay its operating expenses and its fixed charges. We seek to have as many lines as possible connect with us, in order to provide for the Pacific coast traffic. The Isthmus of Panama has been, up to now, the only means of transcontinental traffic to those ports—in fact, they depend upon it—except the route around the

Horn. In order to secure that business we accept any regularly established line that advertises scheduled sailings to and from our ports, our terminals on either ocean.

Our understanding with those lines is that they are to make rates for all classes of goods, down to certain minima that are established. The minimum is very much lower than it has ever been necessary to go. That is in order that what are called initial carriers may have full authority to make competitive rates to secure business. As a matter of fact, the steamship lines maintain classifications of freight and grade their rates accordingly, making such rates as are necessary to secure the business. Our interests are left to that extent in their hands. All reports of business are made directly to our New York office. All accounts are checked there.

If we notice a falling off in the tonnage or a change in the rates that would be prohibitive or restrictive in any way, we immediately protest that their arrangement with us is to get the business, and if we find that we are losing any particular class of tonnage we insist on their making rates that will recover it or will secure it.

That shows that they have a free hand to make rates to get the business. Then, thereafter, the rates are divided on agreed percentages. The railroad company received 25 per cent of any through rate made. Forty per cent goes to the Atlantic carrier, and the balance, 65, or 35, or 38 per cent, to the Pacific carriers.

Senator MORGAN. What inducements do you offer to these various lines that have these traffic arrangements with the railroad company to unite in your scheme?

Mr. DRAKE. It is a common interest, Senator. Most of the lines are subsidized. They run to contiguous ports, and our port is a port of call to that extent. The rates are remunerative. They come with various quantities of freight to be transported over the railroad. To that extent it is an increment to them. That is their inducement. We furnish them, on the other hand, with freight to take to their home ports. That is the business that I referred to as the circulatory business that is constantly maintained by those lines. They start from their home ports and stop at various ports on the way, leaving and taking cargo. They come to our port and do the same thing, and start on their way home, doing the same thing; so that when they leave their home ports they are loaded, and presumably when they reach them they are loaded. Now, we are not interested except in our proportion or share of that business; on that business that they bring to us we get our earning.

Senator MORGAN. You say you supply them with freights to their home ports?

Mr. DRAKE. For the reverse journey; yes, sir.

Senator MORGAN. In what way do you supply them?

Mr. DRAKE. It is collected by carriers on the Pacific side, destined to their home ports. All of the steamship lines have agents on the coast canvassing for business; all of the different nationalities have agents, and that business is destined perhaps to Havre, to London, to Southampton, to Genoa, to Barcelona. According to its destination, it is carried by the line of that nationality, and the line to which it is delivered accounts to us for our proportion of the freight.

Senator MORGAN. All of these different steamship lines which you have arrangements with do not touch at New York?

Mr. DRAKE. None of them do, except the two that have recently established branches.

Senator MORGAN. Then they supply themselves, do they not, with this freight that goes to the home ports?

Mr. DRAKE. They start out from New York with whatever freight they have been able to secure for the ports they stop at on the way to Colon; they deliver whatever freight they have for Colon, take whatever freight we have for them there, and go on to their home ports. That service is different. The other lines run between the home ports and Colon.

Senator MORGAN. Are there any differences in the rates of freight across the Isthmus in respect of any of these vessels?

Mr. DRAKE. No, sir.

Senator MORGAN. They all have the same flat rate?

Mr. DRAKE. They have the same authority—we have not a flat rate across the Isthmus, sir. They have the same rates; they are allowed to make the same rates. Sometimes it is necessary for one carrier to make a little lower rate on a certain class of goods from one port than from another; but he has the authority to do that.

Senator MORGAN. To make his own rates?

Mr. DRAKE. To make his own rates; yes, sir.

Senator SIMMONS. Senator Morgan, may I ask the witness one question?

Senator MORGAN. Certainly.

Senator SIMMONS. I wanted to inquire, Mr. Drake, at what ports these steamers sailing from New York to Colon stop on their way going and coming.

Mr. DRAKE. The Royal Mail stops at Kingston; it sails to Jamaica, principally, and Barbados, I believe, and from there on to Port Limon, to Colon, and then home. The Atlas Line steamers go to Kingston; they stop sometimes at Fortune Island on the way to Kingston (that is on this side of Cuba); then to Kingston; then to Cartagena in Colombia, and to Colon, Port Limon, Veracruz, and home.

Senator SIMMONS. They stop at those places both going and coming?

Mr. DRAKE. No; not both going and coming.

Senator SIMMONS. Going from New York and returning to New York?

Mr. DRAKE. Their ships are run interchangeably. They meet at different ports and may dispatch a ship that will come from Europe to New York; but lately they have changed their ships frequently. The Royal Mail has gotten down now to the *Tagus*, the *Trent*, and the *Atrata*; the Hamburg-American has the *Siberia* and the *Princess* something; I do not know the exact name, sir.

Senator MORGAN. You say, Mr. Drake, that the rates charged to all of these different lines crossing the Isthmus in either direction are the same?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Without discrimination?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. And what did you say the railroad's proportion was?

Mr. DRAKE. Twenty-five per cent of any rate made.

Senator TALIAFERRO. The Secretary of War stated it at 45 per cent.

Mr. DRAKE. Oh, he is speaking of the distribution between our own steamship line and the railroad company. We operate a steamship line with a through rate from New York to Panama; and that is distributed between the railroad company and the steamship line, 55 and 45.

Senator SIMMONS. Why do you make that differentiation?

Mr. DRAKE. Because they are both operated on a separate basis. It is distributed in proportion to the service rendered. The haul from New York to Colon is 1,985 miles; the haul across the railroad is 50 miles, and it is a bookkeeping distribution between the two branches of the same service.

Senator TALIAFERRO. You are mistaken in your idea that the Secretary of War referred to our own ships, I think.

Mr. DRAKE. It may be so.

Senator TALIAFERRO. He says, on page 2548 of the hearings:

"Two other steamship lines run from New York to Colon, the Royal Mail Line and the Atlas Line, and a line from New Orleans to Colon, all of which connect with us.

"Senator MORGAN. Is that line from New York to Colon one of those fruit lines?

"Secretary TAFT. Yes, sir.

"Senator MORGAN. What is the name of it?

"Secretary TAFT. The United Fruit Line. .

"Senator MORGAN. The United Fruit Company?

"Secretary TAFT. Yes. From all of these lines the railroad accepts the same pro rata proportion, 45 per cent, and thus makes no discrimination and attempts no monopoly."

Mr. DRAKE. I want to say, Senator, that I am not the traffic manager. If I had known I was going to be questioned on this subject I would have fully informed myself; but I am so busy in my own department that the business of traffic is left to the traffic manager, and I may be somewhat confused on these percentages. I think, however, that up to this point I am right. I do not like to impeach my own testimony.

Senator TALIAFERRO. Mr. Drake, I understand that any difference is due to a misunderstanding of the facts of the case.

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. But I wanted the record to show what the facts really are.

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. And as the Secretary is under the impression——

Mr. DRAKE. The Secretary's information is undoubtedly correct, sir, because it would be supplied to him directly from our traffic department; and it means to me that there is a distribution of rates between those lines of the through rate from New York to Panama that I have overlooked.

Senator TALIAFERRO (handing printed report to Mr. Drake). Just look at the testimony.

Mr. DRAKE. I have not any doubt of it, sir. [After examining the report.] I think, Senator, that the Secretary is speaking there of the business by our own line.

Senator TALIAFERRO. Read on and see if he is.

Mr. DRAKE. He says: "We have reduced the freight rate from New York to Panama on most goods 33½ per cent or more. We are not much more than paying expenses with our shipping line. The through rates are divided"—with our own line—"45 per cent to the railroad and 55 per cent to the steamship."

I think the Secretary—

Senator TALIAFERRO. Read on, Mr. Drake.

Mr. DRAKE (reading): "Two other steamship lines run from New York to Colon, the Royal Mail Line and the Atlas Line, and a line from New Orleans to Colon, all of which connect with us.

"Senator MORGAN. Is that line from New Orleans to Colon one of those fruit lines?

"Secretary TAFT. Yes, sir.

"Senator MORGAN. What is the name of it?

"Secretary TAFT. The United Fruit Line.

"Senator MORGAN. The United Fruit Company?

"Secretary TAFT. Yes. From all of these lines the railroad accepts the same pro rata proportion, 45 per cent, and thus makes no discrimination and attempts no monopoly."

Senator TALIAFERRO. Now, do you think it refers merely to your line?

Mr. DRAKE. No; I do not.

Senator TALIAFERRO. You think it refers to all the lines?

Mr. DRAKE. It is my present impression that the Secretary has made a mistake, sir.

Senator TALIAFERRO. Do you know what the rates are, Mr. Drake?

Mr. DRAKE. I do not know what the rates are; not so as to state them. We have regular tariffs published; I can produce them all.

Senator TALIAFERRO. Are you the president of the railroad company?

Mr. DRAKE. I am not the president. I am the assistant to the president. I am the operating officer and should know all the rates by memory if it was possible to retain them, but it is not. There are twenty or thirty tariffs or more—fifty tariffs—covering all classes of freight and different destinations. For instance, there are tariffs from Europe to ports on the west coast of South America; there are tariffs from Europe to Central American ports, to Mexican ports, and to United States ports. Those are all different tariffs, sir. Under a uniform classification, and out of any rates named, we accept 25 per cent, and I should know, but I simply can not remember them.

Senator TALIAFERRO. Are not all of these tariffs submitted to you before they are put into operation or effect?

Mr. DRAKE. Oh, yes, sir; yes, sir. They are tariffs that have been in effect a long time, and are changed from time to time, as may be necessary, under the general direction of the traffic manager in connection with the other lines.

Senator TALIAFERRO. Can you say positively that there is any difference in the proportion of rate obtained from the foreign vessels from that obtained from our own ships?

Mr. DRAKE. I will make this distinction: We accept 25 per cent of the through rate named by all foreign ships. We have our own vessels. Our line runs from New York to Panama. The steamers are simply a connection of the railroad—

Senator TALIAFERRO. Now, Mr. Drake, you are repeating your former statement. After saying that you did not know about it, do

you mean to say now that you do know that the railroad company gets 25 per cent of that rate?

MR. DRAKE. I mean to say that I do know that the railroad company gets 25 per cent of all through rates named by connecting companies. I mean to say that I do know that the railroad company makes a rate from New York to Panama over its entire line, and distributes that rate between the two branches of its service into the books on the basis of 55 per cent to the steamship line and 45 per cent to the railroad.

Senator TALIAFERRO. Then you are also prepared to state that the Secretary of War was mistaken in the testimony he gave to the committee?

MR. DRAKE. No; I do not understand the statement, sir. I think the Secretary is mistaken. That is my answer to that. I think he has inadvertently misstated that figure.

Senator TALIAFERRO. Of course it is inadvertently.

MR. DRAKE. It is quite possible that I may be the one in error. I do not think so, though.

Senator MORGAN. Now, Mr. Drake, I will get back to what I was trying to find out from you. You have stated that you make no discrimination whatever between foreign ships—ships of foreign countries—that send freight across the railroad either way, in the freight charges?

MR. DRAKE. No, sir; we make none.

Senator MORGAN. Do you make any distinction between foreign ships and ships of the United States sending freight across?

MR. DRAKE. No, sir.

Senator MORGAN. You get the same percentage?

MR. DRAKE. There are no ships from the United States, sir. The coastwise traffic—

Senator MORGAN. That is what I am asking you about—ships that fly the American flag.

MR. DRAKE. The only vessels that are operated on that route are our own vessels on this side and the vessels of the Pacific Mail Steamship Company on the other side. The Pacific Mail Steamship Company operates with us on the other side.

Senator MORGAN. Is there any distinction between this class of vessels and their foreign vessels?

MR. DRAKE. Not on the foreign business, sir. On the domestic coastwise business the Pacific Mail receives 40 per cent of the business, and the balance is distributed between the railroad company and the steamship line.

Senator MORGAN. And as to the trade that is not coastwise, the rate is 25 per cent?

MR. DRAKE. Yes, sir.

Senator MORGAN. That explains the whole situation. Now, you said that sometimes there was a falling off in certain classes of shipments across the railroad—a falling off in the amount of freights you would get to transport?

MR. DRAKE. Yes, sir.

Senator MORGAN. And you would call attention to it and make a complaint about it?

MR. DRAKE. I said that that would be done in the ordinary course

of business in our relations with cocarriers; only as evidence that we are following up our business.

Senator MORGAN. Such occasions have arisen, have they?

Mr. DRAKE. Oh, yes, sir; continually.

Senator MORGAN. Now, what inducement have you, or what means of compulsion have you, as against these connecting lines, to make them do better?

Mr. DRAKE. None, sir. It is a joint arrangement. It is a traffic arrangement; and we have, for instance, pressed the South Pacific carriers to make rates low enough to bring the heavy products from down there—not as low as nitrates, but ivory, nuts, and sugar. Most of the sugar goes around by way of the Horn, because our cocarriers insist that they have made a rate low enough to——

Senator MORGAN. You have pressed upon them the fact that they were not bringing you as much of these heavier articles as you thought they ought to?

Mr. DRAKE. Yes, sir. Our ships need homeward cargo now.

Senator MORGAN. In the event that they should be obstinate about it, and continue to ship around the Horn or elsewhere, what would be your remedy against them?

Mr. DRAKE. To try to induce other lines to go in there and take the business in connection with us.

Senator MORGAN. And that would be all the remedy you would have?

Mr. DRAKE. Yes, sir; unless we establish a line of our own, which would be inadvisable, because the volume of the business would not warrant it.

Senator MORGAN. I do not see the advantage that any foreign shipping line would have in making arrangements with the railroad.

Mr. DRAKE. There is interport business, sir, as I stated before, and they are subsidized. The Chilean Line is subsidized by the Chilean Government. The lines of the different other nationalities have postal contracts with their own governments that obligate them to run, for instance, to our port.

Senator MORGAN. Now, there are other lines of ships, or there are separate ships?

Mr. DRAKE. There are no separate ships, sir; they are all lines.

Senator MORGAN. I say, though, there are others that come and go from the Isthmus on both sides?

Mr. DRAKE. They do not stop at the Isthmus; they pass the Isthmus.

Senator MORGAN. They go around the Horn?

Mr. DRAKE. They go around the Horn; yes, sir. There are other ships that come to the Isthmus with cargo destined for the Isthmus. There are other ships with canal-construction material.

Senator MORGAN. Yes. That is under contract with the Government, though?

Mr. DRAKE. Yes, sir.

Senator MORGAN. I am talking about ships that are engaged in independent traffic. Do none of them go there?

Mr. DRAKE. No, sir.

Senator MORGAN. Why not?

Mr. DRAKE. It would not pay a ship to run there for one trip.

Senator MORGAN. But they might have two, might they not—one for the Pacific and one for the Atlantic?

Mr. DRAKE. The policy of the Panama Railroad Company now—it has always had a policy—is to admit all regularly established lines, as I said before, that advertise sailings to our terminals. If a ship came in there and tendered us freight of course we would take it; but it would not be at a through rate, because an independent steamship line would have no right to make a through rate; it could not make a through rate; it has no arrangement with us. We would have no security for collecting what was due us of the money that that line had collected.

Senator MORGAN. Then you have your arrangement limited as far as it goes to regularly established lines that have connections on both sides of the Isthmus?

Mr. DRAKE. For through-billing business; yes, sir—what I call through business.

Senator MORGAN. Through-billing business—yes. I will get to the billing part in a moment. And if an independent ship comes there, it has to take the chances of getting its cargo across?

Mr. DRAKE. Its cargo would be received in the regular course of our business, sir, and transported at our regular rates.

Senator MORGAN. But you do not seek that trade?

Mr. DRAKE. We would be very glad to have it come, sir, because the local rates are high.

Senator MORGAN. But you do not seek it? You do not offer any inducements?

Mr. DRAKE. There really is not any business for them to do, sir. That is presumably why they do not come. The other lines provide for all of the business that there is to go by the Isthmus.

Senator MORGAN. But the business is growing every day, is it not?

Mr. DRAKE. Yes, sir; undoubtedly. No; the business is growing slowly. The business recently from Europe has been larger than heretofore.

Senator MORGAN. But naturally the Panama Railroad, run as an independent establishment, free from complications with any outside shipping interests at all, would want to get all the ships it could get to land there, treating them all equally?

Mr. DRAKE. Yes, sir; the more the better.

Senator MORGAN. But none have landed?

Mr. DRAKE. None have landed; no, sir.

Senator MORGAN. The independent ships, the tramps, and all those—

Mr. DRAKE. Go by.

Senator MORGAN (continuing). Go by?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You do not get any of that trade?

Mr. DRAKE. No, sir.

Senator MORGAN. Now, what advantage is it to the railroad to exclude these outside ships?

Mr. DRAKE. It does not exclude them, sir.

Senator MORGAN. Is it not the necessary result of your making traffic arrangements with the regularly established lines that the tramps and outside ships are excluded?

Mr. DRAKE. No, sir; we would be glad to welcome them if they came, and to handle their business. If they came to us to make through billing arrangements we would be glad to welcome them; if they came with cargo to be transported over the Isthmus we would be glad to handle it. We have regular rates; we have local rates across the Isthmus, and regular wharfage rates for the steamer at Colon; and it would meet with the same treatment as any other.

Senator MORGAN. These regular lines are necessarily in competition with the tramp lines, are they?

Mr. DRAKE. That is my answer, sir—I think they cover all the business. There is no inducement left for a tramp line to go there.

Senator MORGAN. They still roam the ocean in thousands, do they not?

Mr. DRAKE. Yes, sir.

Senator MORGAN. They do business somewhere?

Mr. DRAKE. Yes, sir.

Senator MORGAN. They do not do business at your terminals because you do not offer them any inducements, I suppose. They do business everywhere else. I was trying to find out why they did not do any business with you.

Mr. DRAKE. I can not answer, sir. My assumption is that there is no business for them.

Senator MORGAN. I am trying to get at it. I have the supposition in my mind—the belief, I might say—that this traffic arrangement that you make with permanent lines runs off all of the other people.

Mr. DRAKE. I do not think so, sir. It is possible that in the case of an occasional steamer coming in there, that steamer might name a very low rate for its service. We have a regular rate across the Isthmus, a regular local rate, that has lately been reduced materially. It is possible that the sum of those two locals would be higher than the through rate.

Senator MORGAN. You have mentioned “through billing.”

Mr. DRAKE. Yes, sir.

Senator MORGAN. Please describe that.

Mr. DRAKE. There is an agreed form of bill of lading in use by all the parties. If the Royal Mail Steamship Company is going to take a shipment at Southampton for Callao it uses that form of bill of lading. All of the provisions of the bill of lading are discussed and agreed upon. It provides all the protection for the carriers and for the cargo; and that is the form of bill of lading that is used to cover that shipment from the point of origin to the point of destination.

Senator MORGAN. If you come from Southampton and are destined to Callao, that bill of lading carries you right across the Isthmus?

Mr. DRAKE. It follows along with the cargo.

Senator MORGAN. Then you look to the company that gives that bill of lading for your percentage?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Of 25 per cent?

Mr. DRAKE. Yes, sir.

Senator MORGAN. For your part of the traffic?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That means 25 per cent of the whole bill?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Whatever they earn?

Mr. DRAKE. Yes, sir; except that almost all of the steamship lines have some little additional charges on the bill of lading for various services that they render that are distinct exceptions from the through rate. The through rate might be \$10, and there might be a charge of 25 cents for some port service or for some bill of lading service that the initial carrier had rendered that we do not participate in. Those are local charges.

Senator MORGAN. Those little extra charges, I suppose, relate to—

Mr. DRAKE. To services rendered.

Senator MORGAN. To work they do in crossing the Isthmus?

Mr. DRAKE. No, sir; not necessarily—at their own port.

Senator MORGAN. Not crossing the Isthmus?

Mr. DRAKE. No, sir.

Senator MORGAN. Have you one of the forms of bill of lading?

Mr. DRAKE. Here? No, sir.

Senator MORGAN. You can furnish it to the committee?

Mr. DRAKE. Every one of them, sir.

Senator MORGAN. I wish you would send it to us. Take a memorandum of it, please.

Mr. DRAKE. Yes, sir; I will do so.

Senator MORGAN. That form of bill of lading obtains in all the traffic arrangements that you have with all these different lines?

Mr. DRAKE. There are different forms, sir; there are different agreed forms for different branches of business. They differ in some minor details—that is, the bills of lading on the Pacific are not exactly the same as the bills of lading on the Atlantic. They cover the business between them.

Senator MORGAN. The bills of lading and all of the different forms applicable to different kinds of shipments are made under agreement with the railroad company?

Mr. DRAKE. Yes, sir.

Senator SIMMONS. Does that agreement include the freight rate also?

Mr. DRAKE. The bill of lading states it, sir.

Senator SIMMONS. I know. But is there an agreement between these steamship companies and the railroad as to what shall be the rate or tariff charged upon specific articles to be transported?

Mr. DRAKE. Yes, sir. I stated, I think before you came in, Senator, that the authority was vested in the initial carrier on both sides to name rates down to a point necessary to secure business on different classes of traffic, and the rate named is stated in the bill of lading.

Senator SIMMONS. Then if the traffic originates on the steamship company's route, they fix the rate?

Mr. DRAKE. Yes, sir.

Senator SIMMONS. And you agree to abide by that?

Mr. DRAKE. Yes, sir; down to a certain figure. They can not go below a certain point without our authority to change it.

Senator SIMMONS. They can not go below a minimum?

Mr. DRAKE. No, sir.

Senator MORGAN. Now, if I understand you, Mr. Drake—

Mr. DRAKE. May I understand you, Senator? Do you wish all the forms of bills of lading, or a sample form?

Senator MORGAN. Just one of the forms which contains the contract for the 25 per cent allowance. They contain that, do they not?

Mr. DRAKE. No, sir; that bill of lading is simply a cargo paper. It follows along with the cargo and is accompanied by what is known as an "accountable receipt," on which is checked, at the intersecting points, exceptions taken, because each carrier is responsible for its own loss and damage. If you give a clean bill of lading to a shipper for an article—you being the English carrier, for the moment—and by the time you bring it to me I note on the accountable receipt that it was damaged, that it was wet, that it was stained, that it was broken and repaired, that it was resewn, or that one of the contents was missing, that it was deficient in weight as stated by the bill of lading, etc., that notation is made on the accountable receipt so as to protect me from the claim the shipper will make for that loss.

Senator MORGAN. What I am trying to get at, Mr. Drake, is the general nature of the contract which is obligatory upon the United States.

Mr. DRAKE. Yes, sir.

Senator MORGAN. I want to know what kind of business we are doing through you as an officer or agent of the United States.

Mr. DRAKE. Yes, sir.

Senator MORGAN. And how far the United States Government is made responsible for all the damages and losses and whatever may occur to the disadvantage of the shipper by these bills of lading. I just want to see what the contract is.

Mr. DRAKE. In answer to that, may I say that the object of these notations upon the accountable receipt which accompanies the cargo is to fix the liability of each carrier; and the claims of shippers are settled on the basis of those notations, those following notations on the cargo papers.

Senator MORGAN. They are settled by the company——

Mr. DRAKE. By the company that is responsible.

Senator MORGAN. By the company that is responsible, and not by the railroad company?

Mr. DRAKE. If the railroad company is responsible it pays.

Senator MORGAN. Of course if the loss occurs on the railroad, then it pays the damages.

Mr. DRAKE. Yes, sir.

Senator MORGAN. If not, it is not responsible for any of these losses or damages——

Mr. DRAKE. Not at all, sir.

Senator MORGAN (continuing). That may occur on the shipment from the home port out across to the port of destination?

Mr. DRAKE. Not at all, sir. Each carrier is distinctly made responsible for the loss that occurs on its own link.

Senator MORGAN. Yes. Now, no ship is admitted to give these through bills of lading except those that belong to this combination?

Mr. DRAKE. There is not any combination, sir.

Senator MORGAN. Well, I call it a combination. If you will find a better word, I will try to adopt it.

Mr. DRAKE. I do not know of any combination. We treat each line separately. We have always refused to recognize any combination. We deal with each line separately, and it is a uniform——

Senator MORGAN. I understand that your contracts are with each line separately; but taking the aggregate together, the rates are the same across the Isthmus for all of them?

Mr. DRAKE. Yes, sir; from each port.

Senator MORGAN. Now, no ship is permitted to come there and demand that rate across the Isthmus of 25 per cent upon its fares, its cargo, except those that are in this arrangement?

Mr. DRAKE. May I correct that, sir? Except a line which has been admitted to through billing privileges.

Senator MORGAN. I am not very particular about words; I am trying to get at ideas.

Mr. DRAKE. Yes, sir.

Senator MORGAN. They are not admitted to pass the Isthmus at the rate of 25 per cent of their through rate unless they belong to this coterie, and have the privilege of giving through bills of lading?

Mr. DRAKE. I must take exception to that statement, Senator. Any line can be admitted; every line would be admitted. The door is open. We will gladly welcome any line that will come and operate with us regularly.

Senator MORGAN. I understand that.

Mr. DRAKE. In the case of any line that comes for one trip and delivers its cargo to us, we take it and carry it across on the railroad at our local rate, the same as we would carry a passenger.

Senator MORGAN. Now, there is the difference: You will charge it the local rate, instead of the 25 per cent rate upon the charges?

Mr. DRAKE. Yes, sir; that is the thesis of the business of a common carrier.

Senator MORGAN. What is about the average difference between your local rates and this 25 per cent rate?

Mr. DRAKE. There is quite a material difference.

Senator MORGAN. Quite a material difference?

Mr. DRAKE. Yes, sir; that is all I can say.

Senator MORGAN. So that a ship that has no right to give a bill of lading through the Isthmus, under this agreement, could not claim the 25 per cent as the charge of the company?

Mr. DRAKE. No, sir; it must pay the local rate.

Senator MORGAN. Now, I think we have the situation upon that point. That is what I was trying to find out—whether there was any discrimination made, and I find that there is.

Mr. DRAKE. It is a distinction, not a discrimination.

Senator MORGAN. You charge a local rate to the company that is not in the contract, and you charge the 25 per cent rate to the company that is; and the local rate is much higher than the 25 per cent rate. That is the situation?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That is what I was trying to get at. My real point about it, Mr. Drake, is this: That on my part, I object to the United States being involved, through the transactions of this railroad company in any such net of bargaining and contingencies in carrying on such traffic.

Mr. DRAKE. Senator, may I say that there is nothing exceptional in the situation? It is done by every line. In the case of one vessel coming to us with one cargo, being a perfect stranger, we would have to be paid our rate for transportation. It might never come

again, and we could not follow that cargo on to its destination. We do not know what that first carrier has done, what contracts he has made at the initial point. We do know what contracts have been made by our cocarriers, and we are parties to them.

Senator SIMMONS. When this tramp ship comes, and you accept its business, you require the vessel to pay the local freight rate?

Mr. DRAKE. Yes, sir; or to guarantee us in some way; that would be enough.

Senator SIMMONS. But if they guarantee it, you do not know that you will ever see them again.

Mr. DRAKE. We would require prepayment; we do of all local business across the Isthmus. We collect the same as any other railroad does for the business transported across the railroad locally; we collect at the time.

Senator DRYDEN. Do you refuse to enter into any contract with any vessel or steamship company which has expressed a desire to make a contract with you?

Mr. DRAKE. Absolutely not, sir. On the contrary, we are now encouraging a line that is proposed to be established by the Peruvian Government. They want better service than is afforded by the lines they have now. It has been a matter of correspondence between the State Departments of the two countries that are organizing the line and the railroad company. I believe they are going to inaugurate a line, and we are urging them to do it. It is the same way with the Kosmos Line, a very important line that goes by us on the Pacific side. We have urged them time and again to make a traffic arrangement with us so as to compete with the lines that are already there. They have been unwilling to do so yet, because their movements are irregular and they are independent; they are free lances. It is a very strong line, and we would be very glad to have them there.

Senator MORGAN. What is meant by "free lances?"

Mr. DRAKE. They go up and down the coast; they do not sail at regular scheduled times. They run down to one port, and they go back to another port; they will go in one port and take fifteen or twenty days to get a cargo. They are perfectly independent of all other lines.

Senator MORGAN. They are a regular line of steamers?

Mr. DRAKE. They are a regular line of steamers; yes, sir. They run to the home port, Hamburg; they have forty or fifty steamers running from all ports.

Senator MORGAN. Their steamers, then, though they belong to an established line, to what you call a regular line, have no established sailing dates, etc., from one port to another?

Mr. DRAKE. No regular itinerary; no, sir.

Senator MORGAN. No regular itinerary?

Mr. DRAKE. They move according to the requirements of their business.

Senator MORGAN. That is why you call them "free lances?"

Mr. DRAKE. I meant by my term that they operate as suits themselves.

Senator MORGAN. Yes. And they decline to go in with you?

Mr. DRAKE. They decline to come in for some reason. I can not imagine why. We have tried to make them.

Senator MORGAN. I suppose it is because it was to their advantage not to do it.

Senator HOPKINS. They pay the local freight, then, do they, when they use the road?

Mr. DRAKE. They do not use the road.

Senator HOPKINS. They do not use the road at all?

Mr. DRAKE. No; they go by.

Senator MORGAN. No; we lose all that traffic. Have you, in the organization of the railway company, an executive committee?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Who comprises that committee to-day?

Mr. DRAKE. The president, the vice-president, Governor Magoon, Mr. Pepperman, and Mr. Cromwell.

Senator MORGAN. The president, the vice-president, Governor Magoon—the governor of the Zone?

Mr. DRAKE. Yes, sir.

Senator MORGAN. He is one of the directors, and Mr. Cromwell?

Mr. DRAKE. And Mr. Pepperman.

Senator MORGAN. Mr. Pepperman and Mr. Cromwell?

Mr. DRAKE. Mr. Pepperman and Mr. Cromwell; yes, sir.

Senator TALIAFERRO. Who is the vice-president, Mr. Drake?

Mr. DRAKE. Mr. Stevens, sir—the chief engineer of the Canal Commission.

Senator TALIAFERRO. You are not a member of the executive committee?

Mr. DRAKE. Not now, sir.

Senator MORGAN. Does this executive committee meet and give orders with regard to freights and traffic?

Mr. DRAKE. It meets and regulates the business of the road and gives me instructions or anybody else. Its powers are defined by the by-laws, and in the absence of the board it is the board.

Senator MORGAN. It is the board in the absence of the board?

Mr. DRAKE. Yes, sir. The board has quarterly meetings. The committee meets at any time on the call of the chairman.

Senator MORGAN. Very good. That committee consists of five members?

Mr. DRAKE. Yes, sir. Three make a quorum.

Senator TALIAFERRO. Senator, may I ask a question there?

Senator MORGAN. Yes.

Senator TALIAFERRO. It will not break into your questions at all?

Senator MORGAN. No; go ahead.

Senator TALIAFERRO. Are you the secretary of the road?

Mr. DRAKE. I am secretary, treasurer, and assistant to the president, sir.

Senator TALIAFERRO. Are you in the habit of keeping the minutes of the board of directors of the railroad company, and of approving in your minutes the acts of the executive committee without setting up those acts in the minutes?

Mr. DRAKE. No, sir; I do not approve them. In the first place, the first assistant secretary is a stenographer, and takes notes of proceedings of both the board and the executive committee. There is a board of directors and an executive committee. They have different meetings. He takes the notes of the meetings, and writes up his

notes afterwards. Those notes are submitted to the board or to the committee, as the case may be, thereafter.

Senator TALIAFERRO. I would like to have you answer the question clearly and positively.

Mr. DRAKE. I shall try to do so, sir. I am trying to. I want to impress you with the idea that I am trying to do that.

Senator MORGAN. I do not mean to imply that you are not, but I want to get it clear. I want to know if, as secretary of the company, and secretary of the board of directors, you are in the habit of incorporating in your minutes the approval of the acts of the executive committee without setting up those acts in the minutes?

Mr. DRAKE. We have a perfect record in the executive committee book of the action of the executive committee. All of the action of the executive committee is read to the board, under the by-laws. There is a clause which requires that at every regular meeting of the board there shall be an explicit statement made to the board of all action had by the executive committee; and that statement is invariably presented to the board and is ratified by the board, and the fact is recorded, simply. The record of the executive committee is in a separate book, another book.

Senator TALIAFERRO. In other words, you are in the habit of approving the acts of the executive committee without setting up those acts in your minutes, the minutes of your meetings?

Mr. DRAKE. In the minutes of the board?

Senator TALIAFERRO. Of the board.

Mr. DRAKE. Yes, sir.

Senator MORGAN. He says it is a separate book.

Mr. DRAKE. They are kept in a separate book entirely.

Senator TALIAFERRO. I understand.

Senator MORGAN. Have you the book here?

Mr. DRAKE. No, sir. There are twelve or fifteen of those books. The executive committee approves of its own acts and reports its action to the board. Thereafter, at the next subsequent meeting of that board, the acts of the executive committee are reported and are approved or disapproved, as the case may be.

Senator TALIAFERRO. Can you explain to the committee, Mr. Drake, this extract from one of your meetings:

"Extracts from minutes of the several meetings of the executive and finance committee, held October 23, 27, and 30, and November 2, 6, and 10, were read as an explicit statement of all action had since the last meeting of the board. Upon motion, duly seconded, said action was approved and made the action of the board."

Mr. DRAKE. You will find that——

Senator TALIAFERRO. Can you explain what that means?

Mr. DRAKE. Yes, sir. You will find just such a notation running through that book from beginning to end. It seems that at every meeting of the board a report was made by the executive committee of what had been done by the executive committee.

Senator TALIAFERRO. Without stating in the——

Mr. DRAKE. Without stating them in these minutes, the minutes of the committee were submitted.

Senator TALIAFERRO. Did you bring those minutes over with you?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. What earthly use did you suppose these minutes would be to this committee when they are prepared after such a fashion as that?

Mr. DRAKE. My dear Mr. Senator, I supposed that I had brought the book that was called for by the letter that I received from the chairman of the committee. The letter calls upon me to bring the book containing the minutes of the meeting of the board of directors of the 8th of November.

Senator TALIAFERRO. What do you suppose the committee can tell about these meetings if the action approved is not set up in the book?

Mr. DRAKE. Senator, I had no intimation—the action at the meeting of November 8 is set up in that book. It is the action of the board of directors. The minutes of the executive committee—I can bring any minutes that you wish.

Senator TALIAFERRO. Mr. Drake, that action of this board of directors made the acts of that executive committee the acts of this board?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. And yet you do not set those acts forth in the minutes of the meeting.

Mr. DRAKE. The acts of the executive committee—I will have to repeat in order to say what I must say to that, sir—the acts of the executive committee are recorded in just such a minute book as that, as the minutes of the executive committee. At the meeting of the board that book is laid before the board, and it is read from beginning to end, and the action recorded in that book, signed and approved exactly as those minutes are there, is made the action of the board, and is a part of the records of the company, and it can be produced. I will produce any one that is called for or any number of them.

Senator TALIAFERRO. The committee can not tell anything at all about these meetings of the board of directors, Mr. Drake—that is the only reason I am asking you these questions—unless they have the complete record of what occurred at those meetings.

Mr. DRAKE. I trust you will understand, sir, perfectly that there was not the slightest intention on my part to evade.

Senator TALIAFERRO. I do understand that.

Mr. DRAKE. And please understand another thing, Senator, that I will use every effort to lay before you any book or any number of books that you call for. They are all regularly kept.

Senator TALIAFERRO. They should all be here if we are to go through these proceedings of the board of directors at all.

Mr. DRAKE. I will telegraph for them.

Senator TALIAFERRO. I do not know that they will all be necessary.

Senator MORGAN. Some of them certainly will.

Mr. DRAKE. Mr. Chairman, I trust that you will, on my behalf, make plain that the letter called for this particular book.

The CHAIRMAN. I think the letter that was sent to Mr. Drake was, if I recall it, to the effect that the committee desired the minutes or the record as made up. I can understand, of course, now, that you having kept your minutes in the other way, it could be misunderstood.

Mr. DRAKE. Here is the letter I received from the committee:

“It is desired that you bring with you such records as will explain to the committee the financial affairs of the company in all respects.

Also the original minute book of the board of directors of the Panama Railroad covering the meeting of November 8, that you may lay the records before the committee."

The CHAIRMAN. The intention was to have it as full as you could furnish it. It did not occur to the chairman at that time as to the manner in which the record was kept.

Senator MORGAN. I do not think anyone is imputing to you, Mr. Drake, any sort of neglect or delinquency, but it is merely a mistake as to the books that we really needed.

Mr. DRAKE. Thank you, Senator.

Senator TALIAFERRO. I want you to understand, Mr. Drake, that I had no purpose at all in putting my questions except to show that we can not get the information from these records as you have presented them and as those records have been kept.

Senator MORGAN. I will ask that I be permitted to read a couple of sections from the charter of this railroad company, which I understand is the law under which you are still acting.

The CHAIRMAN. Senator, as the witness has stated that it is very important that he return to New York this evening, I believe, on account of some business to-morrow, would it not be better if members of the committee would allow him to proceed until he is through, and then take up the other matters?

Mr. DRAKE. I can be at the service of the committee to-morrow.

The CHAIRMAN. You can?

Mr. DRAKE. Yes, sir.

The CHAIRMAN. Proceed, then, Senator.

Senator SIMMONS. You are going to New York this evening?

Mr. DRAKE. No, sir.

Senator SIMMONS. Can you have those other books here to-morrow?

Mr. DRAKE. I will telegraph for them immediately when I leave the committee. I would like some indication of how many of the books are required, because they run back to 1850.

Senator TALIAFERRO. That is a question for the committee.

Mr. DRAKE. I ask to have the committee to give me information on the subject. I have promised to get whatever books are desired.

Senator TALIAFERRO. I do not know whether these records will show that meeting of November 8 or not.

Mr. DRAKE. If you will turn to the meeting of November 8 you will find that there was no meeting of the executive committee at that time. All the business was done by the board. The minutes of the executive committee since the Government took charge of the property have been very meager. Most of the business has been done by the board. That is the record of the action taken at the meeting of November 8.

The CHAIRMAN. The meeting of the executive committee, then, would not show this?

Mr. DRAKE. Not at all.

Senator KITTREDGE. How voluminous are the minutes of the executive committee?

Senator SIMMONS. Since the Government took charge?

Mr. DRAKE. Not very voluminous. I would like to know whether I shall send for the books from May, 1904, or from 1902, or 1903.

Senator KITTREDGE. I would like the books from the 1st of January, 1902.

Mr. DRAKE. All right, sir.

Senator MORGAN. I would like them from 1900.

Mr. DRAKE. All right.

Senator TALIAFERRO. You had better bring the complete set.

Senator HOPKINS. How many books would there be down to 1902 or 1900?

Mr. DRAKE. From the organization of the company?

Senator HOPKINS. No; from now back.

Mr. DRAKE. Four or five.

The CHAIRMAN. There is no object in going back beyond 1900.

Senator TALIAFERRO. I do not know whether there is or not. You had better send all the minute books.

Senator DRYDEN. Back to 1850?

Senator TALIAFERRO. I do not see why we should not have them.

Senator HOPKINS. It is simply as a matter of convenience. The probability is that there are 20 or 30 books.

Mr. DRAKE. There are 15 books of that size [indicating]. It will be a matter of freight. Still, I can do it.

Senator MORGAN. Now, Mr. Drake, I want to ask you——

Senator HOPKINS. Let us settle this first, Senator.

The CHAIRMAN. We can settle this in a moment, Senator.

Senator MORGAN. Well, I give it up. I will not have anything more to do with it. I have been trying to conduct an examination that would modify the whole situation, and gentlemen interrupt me. Of course I am entirely willing to be interrupted, but it simply dispenses with my services; that is all.

Senator HOPKINS. The suggestion was made about getting the books, and while we are on it we had better have the committee determine whether all the books shall come or a part of them, and if so, what part.

Senator MORGAN. I was trying to get before this committee the statutes on which this matter is being conducted. Then we will have a guide to go by. I read sections 3 and 4 of the act of the New York general assembly chartering this company, under which I understand, Mr. Drake, that you are acting?

Mr. DRAKE. Yes, sir.

Senator MORGAN (reading):

"SEC. 3. The concerns of the said corporation shall be managed by thirteen directors, who shall be stockholders, and who (except the first directors hereby appointed) shall hold their offices for one year and until others are chosen in their places. The persons named in the first section of this act shall be the first directors, and shall hold their offices until the first Monday of April, in the year one thousand eight hundred and fifty-one, and until others are chosen in their places. The directors, except for the first two years, shall be annually chosen at such time and place in the city of New York, and on such notice as shall be directed by the by-laws of the said corporation. In all meetings of the stockholders each share shall entitle the holder to one vote, to be given in person or by proxy. In case it should at any time happen that an election of directors shall not be made on the day appointed by the by-laws of the said corporation, the said corporation shall not for that cause be deemed to be dissolved, but such election shall be held on any other day which shall be appointed by the directors of said association.

"SEC. 4. The directors (of whom five shall constitute a quorum for the transaction of business) shall appoint one of their number to be president, and may appoint such other officers and agents as they shall deem necessary, and they may make and establish such by-laws, rules, and regulations as they shall think proper and expedient, touching the disposition and management of the property, estate, and effects of the said corporation, the transfer of shares, the duties and conduct of their officers and servants, the election and meeting of the directors, and all matters whatsoever which may appertain to the concerns of said corporation. When any vacancy shall happen among the directors it may be filled by the remaining directors, and the directors may remove all officers appointed by them and appoint others in their place and fill all vacancies in the offices."

That relates entirely to the organization and powers of the board of directors.

Now, Mr. Drake, can you point out in this statute—and I think it is all here—the authority under which this executive committee is appointed?

MR. DRAKE. Yes, sir; it says that the board may make such by-laws as it may deem proper and necessary for the transaction of the business of the company.

Senator MORGAN. Is there a by-law establishing this executive committee?

MR. DRAKE. There is.

Senator MORGAN. Have you a copy of that?

MR. DRAKE. The by-laws have been recently amended and are being printed now. I have not a copy. I can get it.

Senator MORGAN. The by-laws have been recently amended and you have no copy with you?

MR. DRAKE. No; the record of the board would show how they were amended in some minor point. But the by-laws do provide, by one of their articles, that there shall be an executive committee. I have not a copy here, answering your question specifically. But the by-laws provide that there shall be an executive committee who shall exercise all the powers of the board in the absence of the board. Further, the statute is amended somewhat by the by-laws in another respect.

Senator MORGAN. That statement is in your former deposition before this committee, just as you state it now, but I have looked in vain to find out anything in the charter that authorized the establishment of an executive committee, and you now explain it by saying the by-laws provide for that?

MR. DRAKE. Yes, sir. The statute provides that the directors may make such by-laws.

Senator MORGAN. Yes, sir.

MR. DRAKE. And under that there is an executive committee.

Senator MORGAN. The statute provides that. I was trying to find it.

MR. DRAKE. I want to say that I told my assistant to put in some copies of the new by-laws, and he overlooked it.

Senator MORGAN. I want to get your recollection, which will do until we can get the papers before us, so as to continue your examination intelligently. I want to get your recollection as to the date when the first executive committee was established by this company.

Mr. DRAKE. Long before my time. I do not know.

Senator MORGAN. Long before your time?

Mr. DRAKE. Yes, sir. I have only been with the company since 1888.

Senator MORGAN. When you came in you found the executive committee?

Mr. DRAKE. Yes, sir; there has always been one.

Senator MORGAN. And that consisted of five directors?

Mr. DRAKE. Yes, sir. I do not know exactly the number before my time. I have studied the records pretty steadily, but I do not know the number of the executive committee before——

The CHAIRMAN. It is five now?

Mr. DRAKE. Yes; it is five now, and I believe it has always been five.

Senator MORGAN. It has been five ever since you have been in office?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Has that executive committee been regularly kept up?

Mr. DRAKE. Yes, sir.

Senator MORGAN. I will get you to describe, according to your recollection, what are the powers of that executive committee.

Mr. DRAKE. They are just as comprehensive as the powers of the board, in the absence of the board.

Senator MORGAN. Fully as comprehensive?

Mr. DRAKE. Yes, sir.

Senator MORGAN. The executive committee, in the absence of the board, can do anything?

Mr. DRAKE. It can do anything in the management of the affairs of the company. It is all powerful.

Senator MORGAN. Are the proceedings and actions of the executive committee required to be taken down on journals or minute books?

Mr. DRAKE. Yes, sir; they are.

Senator MORGAN. Are they required to be approved by the board?

Mr. DRAKE. They are, sir. The by-laws provide that they shall be approved.

Senator MORGAN. Does it say—this by-law—that the action of the executive committee shall be approved before it takes effect?

Mr. DRAKE. No, sir.

Senator MORGAN. Has it been the practice of the board of directors to regard what the executive committee has done prior to their meeting in which an approval has taken place as being obligatory upon the company?

Mr. DRAKE. In so far as it has been made effective, they can revoke it. They can undo it. The board has power over the executive committee.

Senator MORGAN. But as far as it has been made effective by execution, that stands?

Mr. DRAKE. Yes; until revoked or disavowed.

Senator MORGAN. Suppose this executive committee should make some very important arrangement in regard to any matter connected with the conduct of the railroad, would that action stand, if it had been executed, notwithstanding that they might afterwards revoke it or attempt to revoke it?

Mr. DRAKE. I think it would stand as the action of the board for the time.

Senator MORGAN. To put a case—not an instance that has occurred, but in order to illustrate the situation—I wish to ask you this—

Mr. DRAKE. I am expressing an opinion, Senator.

Senator MORGAN. Yes. Suppose the executive committee should find it convenient and necessary and proper, in their estimation, to buy a steamship.

Mr. DRAKE. Yes, sir.

Senator MORGAN. And they bought it and paid for it. They would have the right to do that?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Suppose they had bought it and paid for it, and that afterwards, at a meeting of the board, they disapproved the act. Would that revoke it?

Mr. DRAKE. No, sir; there would be another party to the transaction.

Senator MORGAN. So that the action of the executive committee, when taken, is final if it is within the purview of the powers conferred upon the board?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And in that connection, the executive committee can do anything that the board could do if they were there?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Now we have an idea of what the powers of the executive committee are.

You have mentioned the names of the directors who now comprise the executive committee?

Mr. DRAKE. Yes, sir.

Senator MORGAN. At what date were they chosen or appointed?

Mr. DRAKE. At the last annual meeting, in April.

Senator MORGAN. The first Monday in April?

Mr. DRAKE. The first Monday in April; yes, sir—the 2d of April.

Senator MORGAN. Who preceded them in that office?

Mr. DRAKE. The only change that was made in the committee was the retirement of Colonel Edwards, on account of illness, and his replacement by Mr. Pepperman.

Senator MORGAN. Mr. Pepperman was put on the executive committee in place of Colonel Edwards?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Is Colonel Edwards the same gentleman who is the Chief of the Division of Insular Affairs?

Mr. DRAKE. Yes, sir. He has gone to New Mexico, I believe.

Senator MORGAN. He is a director now, is he not?

Mr. DRAKE. Yes, sir.

Senator MORGAN. But when Mr. Pepperman came into the board he was put upon this executive committee?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Do you remember when the previous executive committee, the one next prior in date to the executive committee that is now in office, was appointed?

Mr. DRAKE. At the previous annual meeting.

Senator MORGAN. They were appointed at annual meetings?

Mr. DRAKE. They may be appointed quarterly, by the board. They are appointed by the board—at the annual meetings; yes, sir.

Senator MORGAN. At the annual meetings?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And I suppose in every instance they have held their term of office until they either retired from the board or a new election took place?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Do you recollect, now, who was on this executive committee at the date at which the United States took over the property of the Panama Railroad Company from the Panama Canal Company?

Mr. DRAKE. So as not to be in error, I will refer to the copy of the annual report that I have here, where it is stated on the first page: J. Edward Simmons, William Nelson Cromwell, J. H. Parker, Vernon H. Brown, William Barclay Parsons, and Edward A. Drake.

Senator MORGAN. What was the exact date of the taking over of the property in Paris?

Mr. DRAKE. May 7, 1904.

Senator MORGAN. Was it May 7 or May 4?

Mr. DRAKE. May 7, 1904.

Senator MORGAN. Were those gentlemen in office in the executive committee at that time?

Mr. DRAKE. They were, sir.

Senator MORGAN. How long did they continue to hold?

Mr. DRAKE. I think that executive committee continued through the year.

Senator MORGAN. Until the next April?

Mr. DRAKE. Yes, sir.

Senator MORGAN. So that this executive committee that you have just named were in office at the time that we took over the property?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And until the next April?

Mr. DRAKE. Yes, sir; that is my recollection.

Senator MORGAN. Having taken over the property May 7, they had been in there since——

Mr. DRAKE. Since early in April—the first Monday in April.

Senator MORGAN. The first Monday in April?

Mr. DRAKE. Of the preceding April.

Senator MORGAN. Yes; of the same year?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Please state who comprised the executive committee that preceded them.

Mr. DRAKE. J. Edward Simmons, William Nelson Cromwell, Vernon H. Brown, Xavier Boyard, and Edward A. Drake. That was in the year 1903. The previous one was 1904.

Senator MORGAN. Mr. Xavier Boyard was the general agent of the Panama Canal Company in the United States at that time, was he not?

Mr. DRAKE. He was the commercial agent; yes, sir.

Senator MORGAN. And he was also a director in the Panama Canal Company?

Mr. DRAKE. Not in the canal company, I believe. I do not know. He was a director in the railroad company.

Senator MORGAN. I know he was a director in the railroad company, and I have the impression that he was also a director in the canal company. I will ascertain how that is.

Mr. DRAKE. I do not know, sir.

Senator MORGAN. During the year when this property was taken over from the canal company, did the board of directors, after the first Monday in April, have any full meeting?

Mr. DRAKE. That book would tell, sir [indicating minute book]. The first Monday in April would be the meeting for election, and there would be immediately a meeting of the board for organization. Yes, sir.

Senator MORGAN. Well, the first meeting of the board in that year was the first Monday in April, when they were chosen?

Mr. DRAKE. Yes, sir; and there was a meeting to organize that same day.

Senator MORGAN. Did they have any other meeting of the full board during that year?

Mr. DRAKE. They must have, because the meetings were always on the second and fourth Thursdays of the month, at that time.

Senator MORGAN. The meetings of the board?

Mr. DRAKE. Yes, sir; they were always on the second and fourth Thursdays of the month. The minute book that Senator Taliaferro has before him would tell that.

Senator TALIAFERRO. What is the question?

Mr. DRAKE. The Senator has asked if there was a meeting of the board of directors in May, 1904.

Senator TALIAFERRO. Do you wish the book?

Mr. DRAKE. Yes, sir. [After referring to the book.] Yes, sir; there was a meeting on April 14, 1904. The meeting for election was held on Monday, April 4.

Senator MORGAN. The meeting of the full board was on April 19, was it?

Mr. DRAKE. April 14. And another meeting on April 28.

Senator MORGAN. Now, up to the time that this property was transferred or turned over to the United States by the Panama Canal Company, the Panama Railroad Company had had the possession of all of its railroad, all of its belongings and property of every description, in Panama and everywhere else?

Mr. DRAKE. Yes, sir.

Senator MORGAN. It had full possession?

Mr. DRAKE. Yes, sir.

Senator MORGAN. On the 7th day of May, 1904, this possession was turned over to the United States, was it not?

Mr. DRAKE. I so understand, sir. I do not know. I so understand, by the press.

Senator MORGAN. That was the date that the contract was to take effect?

Mr. DRAKE. The railroad had nothing to do with the contract, sir, so you must excuse my ignorance on that score.

Senator MORGAN. I am proceeding to prove that very fact—that the railroad had nothing to do with it.

Mr. DRAKE. I know nothing about it.

Senator MORGAN. Very good. But the possession of the property, up to May 7, 1904, was in the railroad company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. They had the possession of all of it?

Mr. DRAKE. Yes, sir.

Senator MORGAN. After that the possession of all of it went into the United States?

Mr. DRAKE. I do not know. As far as the railroad records are concerned, I do not know anything about it. I will say why. We only know the holders of the stock, the stockholders. Up to the 18th, in fact beyond the date you mentioned, of May 7, the stock remained in the name of the parties that it was in before. On April 18 there was a transfer of the stock made to the name of the Government. At that time the certificates that were presented had a transfer on the back of them, dated May 7. That was the only way that we knew that an earlier transaction than was shown of record on our books had taken place.

Senator MORGAN. That is precisely what I was trying to get you to state and to establish as a fact. No doubt that is a fact, that no action was taken by this board or by the executive committee turning over the possession of that property, in conformity with the transfer from the canal company to the United States.

Mr. DRAKE. It could not be, sir.

Senator MORGAN. Well, it was not?

Mr. DRAKE. No, sir.

Senator MORGAN. Whether it could be done is a law question that I do not think either of us is competent to settle at this moment.

Mr. DRAKE. I am speaking from the position of a treasurer of a company who has charge of the transfers of the stock.

Senator MORGAN. That is right. I want merely to get a clear statement of the actual facts.

Mr. DRAKE. I will give it to you. My duties are defined clearly in regard to the transfer of stock.

Senator MORGAN. All that occurred, so far as the railroad company is concerned, was that a notification that the stock owned by the Panama Canal Company had been transferred to the United States, and a presentation, I suppose——

Mr. DRAKE. I do not know that the railroad got any such notice at all. I do not recall.

Senator MORGAN. You spoke a moment ago of some transfers of the stock?

Mr. DRAKE. When the stock was transferred by Messrs. Day & Russell, the attorneys of the United States. The stock was presented for transfer on April 18——

Senator MORGAN. On April 18?

Mr. DRAKE. On May 18. (Continuing.) That was the first intimation that we had officially of any change in the ownership of the stock and the possession of the property as vested in the stockholders of record.

Senator MORGAN. That is the only transaction connected with the whole business in which the railroad company has been a participant?

Mr. DRAKE. Absolutely, sir. That is, in the transfer of the stock. You refer now to the transfer of the stock?

Senator MORGAN. Yes.

Mr. DRAKE. Yes, sir.

Senator MORGAN. You held to the possession of your property, just as you had been doing before?

Mr. DRAKE. Yes, sir; that is, the stockholders did.

Senator MORGAN. Well, I mean the company.

Mr. DRAKE. Yes, sir.

Senator MORGAN. As a corporation?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you kept up your board of directors and your executive committee?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Just as you had done before?

Mr. DRAKE. Yes, sir; and as we are still doing.

Senator MORGAN. Yes; and you elected your president as you had done before?

Mr. DRAKE. Yes, sir.

Senator MORGAN. At what meeting was any member of the Isthmian Canal Commission elected president of that company?

Mr. DRAKE. It is a matter of record in that book [indicating]. It was July 24. I ask to be allowed to correct that if I am in error as to the date.

Senator MORGAN. 1904?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Who was elected president?

Mr. DRAKE. There were three members elected at that time—Admiral Walker, Professor Burr, and Mr. Grunsky.

Senator MORGAN. Who was president at that time?

Mr. DRAKE. Mr. Simmons had been president.

Senator MORGAN. What became of him?

Mr. DRAKE. He retired.

Senator MORGAN. He resigned?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And Admiral Walker was elected in his place as president?

Mr. DRAKE. Yes, sir. That is all a matter of record and the times when it was done.

Senator MORGAN. Is that the same office that Mr. Shonts holds now?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Does Mr. Shonts hold any other office under the company?

Mr. DRAKE. No, sir. He is president and a member of the executive committee.

Senator MORGAN. And a member of the executive committee?

Mr. DRAKE. Yes, sir.

Senator MORGAN. He holds no other office under the railroad company?

Mr. DRAKE. No, sir.

Senator MORGAN. Did the railroad company have a provision in its by-laws or charters or proceedings or resolutions for the appointment of a general superintendent?

Mr. DRAKE. Yes, sir.

Senator MORGAN. When was that adopted?

Mr. DRAKE. The appointment is made at each annual meeting, and it is made under the authority of the by-laws, which say they may

appoint a general superintendent and such other officers as may be required from time to time.

Senator MORGAN. The by-laws provide for that?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Who was the first general superintendent—that is, since you have been there?

Mr. DRAKE. Col. A. L. Reeves.

Senator MORGAN. Who succeeded him?

Mr. DRAKE. Col. James R. Schaler.

Senator MORGAN. Who succeeded Schaler?

Mr. DRAKE. H. G. Prescott.

Senator MORGAN. And who succeeded Prescott?

Mr. DRAKE. Mr. J. F. Wallace.

Senator MORGAN. He was the first one of the Commissioners who was appointed general superintendent?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Will you give the committee, now, a definition of the powers of the general superintendent?

Mr. DRAKE. The powers of the general superintendent are defined by a power of attorney given to him by action of the board of directors, which empowers him to fully represent the property before the Government of the Republic of Panama and otherwise and to represent the railroad as fully as the power of attorney defines, and to operate the railroad company under that authority.

Senator MORGAN. The Government of the United States was not mentioned in that power?

Mr. DRAKE. The power to Mr. Wallace was from the railroad company, as general superintendent.

Senator MORGAN. I understand from the railroad company, and mentioned that he was to have power to conduct and manage that railroad.

Mr. DRAKE. Senator, I think there is a little discrepancy here. The general manager is one thing and the general superintendent is another. The previous general manager to Mr. Wallace was Mr. Paine, who was in New York. He was general manager of both the railroad and the steamship line, but the general superintendent was the subordinate officer. Mr. Wallace was never general superintendent. He was the general manager. The other gentlemen were general superintendents.

Senator MORGAN. Give us the list of the general superintendents, commencing with those that are in office now and running back.

Mr. DRAKE. The general superintendent was, first, Reeves; then Schaler; then Prescott; and then W. J. Beard, who is now general superintendent.

Senator MORGAN. Now, we have the board of directors, and we have the executive committee, and the general manager?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And the general superintendent?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you have defined the duties of the general manager to some extent?

Mr. DRAKE. Yes, sir.

Senator MORGAN. What are the duties of the general superintendent?

Mr. DRAKE. To obey the orders of the general manager; to carry out the instructions of the general manager.

Senator MORGAN. Of the general manager?

Mr. DRAKE. On the Isthmus.

Senator MORGAN. The general superintendent, then, is the actual executive officer?

Mr. DRAKE. The operative officer.

Senator MORGAN. Well, I call that executive.

Mr. DRAKE. I make a distinction, Senator.

Senator MORGAN. You are the executive officer?

Mr. DRAKE. I am an executive officer. The president, the members of the executive committee, and the vice-president are executive officers. I am an executive officer because I am secretary and treasurer and assistant to the president. But the superintendent of a property is like the janitor of a building. He is in charge of the operation of the property, under the general manager, carrying out his instructions. Mr. Whaley was the first general manager. Did you ask me for a list of the general managers?

Senator MORGAN. No; I asked you for a list of the general superintendents.

Mr. DRAKE. The first general manager was Mr. Whaley. I was afterwards general manager, and then Mr. Charles Paine was general manager. Those first three gentlemen were located in New York. The next general manager was Mr. Wallace, located on the Isthmus.

Senator MORGAN. These general managers, respectively, have the control of the general superintendents?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And the superintendents are to carry out the orders of the general managers?

Mr. DRAKE. Yes, sir.

Senator MORGAN. When the general manager, then, is acting, gives orders, and is in charge of affairs, the general superintendent has nothing to do except as he is directed, has he?

Mr. DRAKE. He is a pretty busy man in carrying out the operations of the railroad. We are handling four hundred and odd thousand tons of freight there, and he is in charge of the movement of the trains and of the cargo and of the different departments.

Senator MORGAN. But in all that matter he is under the direction of the general manager?

Mr. DRAKE. Naturally, who is his chief.

Senator MORGAN. And the general superintendent is under the control of the executive committee?

Mr. DRAKE. And the general manager.

Senator MORGAN. And the general manager both?

Mr. DRAKE. Yes, sir; both of them.

Senator MORGAN. All the subordinate officers are?

Mr. DRAKE. Every subordinate officer is subject to the executive committee; yes, sir.

Senator MORGAN. And the action of the executive committee is the same as if it had been performed or had been taken by the board of directors?

Mr. DRAKE. In the absence of the board; yes, sir. Until approved or disapproved by the board it stands as the action of the board.

Senator MORGAN. And if it has been carried into execution or effect or operation, it stands anyhow?

Mr. DRAKE. If it was irretrievable; yes, sir.

Senator MORGAN. If it was irrevocable?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Does the general manager ever act as general superintendent in his business?

Mr. DRAKE. The superior officer has all the powers and attributes of the subordinate, sir. He would, if an emergency arose, if it were necessary.

Senator MORGAN. Could you give the committee some idea of the difference in the duties between the general superintendent and the general manager.

Mr. DRAKE. In previous years the general manager would direct and authorize all of the important acts of the general superintendent, who would report to him for instructions on any question that he had not already received instructions on, but who would, in the absence of such instructions, perform all the duties of the physical operation of the railroad—that is, the movement of freight, and all that. The general manager has charge of the practical operation of the company's property. The general superintendent acts under him as his subordinate, being in direct contact and control of the gangs of men and the movement of trains and subordinate officers.

Senator MORGAN. He is really the working man?

Mr. DRAKE. He is really the working man; yes, sir.

Senator MORGAN. You said the previous general managers had been located in New York?

Mr. DRAKE. Yes, sir; visiting the Isthmus periodically.

Senator MORGAN. Has there been any change in that between the previous general manager and the present?

Mr. DRAKE. No, sir; except the present general manager is located on the Isthmus.

Senator MORGAN. And the previous one was located in New York?

Mr. DRAKE. Yes, sir; making frequent visits to the Isthmus, periodically.

Senator MORGAN. Is there any change in the duties of the general manager or the general superintendent since the United States became connected with this business?

Mr. DRAKE. No, sir.

Senator MORGAN. There are no resolutions changing it at all?

Mr. DRAKE. Not at all. The by-laws define their powers.

Senator MORGAN. And they have not been changed?

Mr. DRAKE. No, sir.

Senator MORGAN. So that we are sailing now under the same general orders that we were when the Panama Canal Company owned the railroad?

Mr. DRAKE. Yes, sir.

Senator MORGAN. The books that you will bring here will show the action of these different officers and their approval?

Mr. DRAKE. Yes, sir; so far—no; I do not think they will show every action. They will show the action of the executive committee authorizing their later action.

Senator MORGAN. Yes. Well, under the arrangements it has stood so long and been so thoroughly executed under the law and under the

by-laws, also, who has controlled these traffic questions that we have been talking about this morning—the general manager or the superintendent?

Mr. DRAKE. The traffic manager.

Senator MORGAN. There is still a traffic manager?

Mr. DRAKE. Yes, sir.

Senator MORGAN. There is a by-law to establish a traffic manager, also?

Mr. DRAKE. No, sir; he is appointed as “such other officer as may be necessary.”

Senator MORGAN. In that way?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Are his duties defined in any way in the by-laws?

Mr. DRAKE. No, sir.

Senator MORGAN. They are not defined at all?

Mr. DRAKE. No, sir.

Senator MORGAN. And he is appointed by whom?

Mr. DRAKE. He is appointed by the executive committee or by the board—I hesitate because it does not occur to me that since his original appointment, which was by resolution of the board or the executive committee, he has been traffic manager for a number of years, and I think he has held over from year to year.

Senator MORGAN. You refer to Mr. Walker?

Mr. DRAKE. Yes, sir; he has been there for several years, now.

Senator MORGAN. You do not know where he first got his appointment?

Mr. DRAKE. He got his appointment in 1897, I think.

Senator MORGAN. In 1897?

Mr. DRAKE. Yes, sir. He was appointed by the then general manager, Mr. Whaley—Vice-President and General Manager Whaley.

Senator MORGAN. He appointed Mr. Walker?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And Mr. Walker has held under that appointment down to date?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And never been changed?

Mr. DRAKE. No, sir; he is a very able man, and a very conscientious, hard-working man.

Senator MORGAN. He manages, then, all of the traffic arrangements?

Mr. DRAKE. Yes, sir.

Senator MORGAN. What do you do in regard to that, then?

Mr. DRAKE. He discusses matters with me; brings in propositions to make any changes in existing practices. All of our relations with cocarriers, any change in existing practices, any proposal for any change, or any important action he discusses with me. He makes his recommendations, and has my approval.

Senator MORGAN. He has your approval?

Mr. DRAKE. Or not, as the case may be. He is a subordinate of mine at present, in my present capacity. When I was vice-president of the company, he was directly my subordinate. Now that I am acting as assistant to the president, he is under me in that capacity.

Senator MORGAN. Then he takes his orders from you?

Mr. DRAKE. Yes, sir; his general orders. He has charge of the traffic. He conducts the traffic correspondence.

Senator MORGAN. And the approval of anything that he does passes under your cognizance?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you act as assistant to the president?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Is there any by-law authorizing you to act as assistant to the president?

Mr. DRAKE. No, sir.

Senator MORGAN. None whatever?

Mr. DRAKE. No, sir; except that the board has the right to appoint such other officers or agents as may be necessary.

Senator MORGAN. I understand; but did the board appoint you in that capacity?

Mr. DRAKE. No, sir; Mr. Shonts did, under his general authority as president, in this present capacity. I was elected secretary and treasurer.

Senator MORGAN. Yes.

Mr. DRAKE. The by-law provides that I may hold more than one office. I had been, previously, vice-president, when, by action of the President of the United States, the chairman of the Commission became president of the railroad, by virtue of his office in the Commission, and the other members of the Commission became members. Mr. Shonts became the president, and the other members became members of the board, and I was relegated out of office.

Senator MORGAN. You say that was by direction of the President of the United States?

Mr. DRAKE. I so understand. I believe that was the source of authority for the change.

Senator MORGAN. The board never made any such order?

Mr. DRAKE. Oh, my, no. The board elected the members of the Commission.

Senator MORGAN. The board never made any order appointing you as assistant to the president—to Mr. Shonts?

Mr. DRAKE. No, sir.

Senator MORGAN. If it was done at all, it was done by the President of the United States?

Mr. DRAKE. It was done by the president of the corporation.

Senator MORGAN. Is there any law or resolution or order of the president in the files of your company to show any such order as that?

Mr. DRAKE. No, sir.

Senator MORGAN. Was it done orally?

Mr. DRAKE. It was done orally, yes, sir; and communicated to the board. It was done between meetings. And I have acted in that capacity ever since.

Senator MORGAN. That is your title to the powers that you hold now under the president?

Mr. DRAKE. Yes, sir; there are no such powers vested in the secretary and treasurer. The duties of the secretary and treasurer are well defined.

Senator MORGAN. All those powers come through a different order?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Then, you are now present as holding the position of assistant to the president under the orders of the President of the United States?

Mr. DRAKE. The president of the company, sir.

Senator MORGAN. Did you not mention an order of the President of the United States?

Mr. DRAKE. I only mentioned an order of the president of the company. I only mentioned the President of the United States when I said that the members of the Commission became members of the board, and that the chairman of the Commission, by virtue of his office, became president of the railroad; and it is for that reason that Mr. Shonts is the president of the railroad.

Senator MORGAN. Then, Mr. Shonts was not elected by the board?

Mr. DRAKE. Oh, yes, sir; he was regularly elected.

Senator MORGAN. What is the necessity of an order from the President of the United States, then?

Mr. DRAKE. I hope I am not misstating in any way the action of the President. It was understood that by Executive order the members of the Commission were to become members of the board of directors of the Panama Railroad Company, and that of these members of the Commission the chairman of the Commission was to be president of the Panama Railroad Company by virtue of his office.

Senator MORGAN. After that Executive order was received I suppose you went through the formality of an election?

Mr. DRAKE. Yes, sir.

Senator MORGAN. But the real power that appointed them was the order of the President of the United States?

Mr. DRAKE. It could be so construed.

Senator MORGAN. I was trying to find out how the President of the United States had any lawful authority to interfere with a New York corporation. That was my point.

Mr. DRAKE. I imagine it was an intimation that was carried out, sir; that is all.

Senator MORGAN. Well, sometimes intimations are more powerful than statutes.

Mr. DRAKE. I think if 70,000 shares of stock of a corporation are controlled or owned by somebody, what the owner says is apt to control.

Senator MORGAN. I do not question the authority of the President of the United States to make such an order for this reason——

Mr. DRAKE. I do not like to be misquoted as saying that he did make such an order. I do not like to make a misstatement in it.

Senator MORGAN. I am not quoting you at all.

Senator TALIAFERRO. Pardon me. Did you not state in your testimony a moment ago that you understood that the President of the United States had issued an order——

Mr. DRAKE. Not an order.

Senator TALIAFERRO (continuing). That the chairman of the Commission should be, ex officio, the president of the railroad company?

Mr. DRAKE. I do not know that it was an order. It was a communication. I did not say an order. That is what I want to correct, if I gave that impression.

Senator MORGAN. A communication?

Mr. DRAKE. Yes, sir; a communication of some kind was published in a letter. I think it was a letter from the President to the Isthmian Canal Commission.

Senator TALIAFERRO. I was only addressing myself to your suggestion that the Senator was not quoting you accurately; that is all. I do not question the President's right to issue such an order.

Mr. DRAKE. I did not mean to make the suggestion that the Senator had misquoted me. That was an unfortunate word.

Senator MORGAN. I was saying that I do not object to the validity of the President's order—I call it an order, and it was an order, whether you think so or not—

Mr. DRAKE. I simply did not want to be disrespectful to the President in stating a thing that I do not know absolutely.

Senator MORGAN. Well, we are trying to respect the country and the law, as well as the President, as we go along, with all due honor to him and to the law and everything else connected with this business.

I said that I did not question the power of the President under the statutes that we have enacted for the government of the Isthmian Canal Zone to make these changes in this New York corporation. Now, why? It is because the New York corporation has no more existence, in my opinion, to-day, in a legal sense, than something that never existed. It has been wiped out entirely by the edict of the United States Government, which is the supreme law over that corporation, which has control and possession of it, through the President of the United States making these appointments, and the Hay-Varilla treaty, which repeals that corporation, in my judgment. I am merely stating my opinion.

Therefore I am trying to trace up his authority for interfering with the New York corporation, and I assert that he has got it—not according to law, not according to the New York law or to anything that that board may do or might refuse to do. They could not refuse his action in anything that he might choose to direct them. If he wanted to tell them to turn their papers into the fire, they could not refuse it. At least, they would be justified in burning them up if he ordered them to do it. He is the president of the railroad company as well as of the United States.

I think we have the exemplification of the duties and powers of these different gentlemen before the committee in a pretty clear light, and I will ask you now to repeat to the committee all of the powers that you execute without consultation with Mr. Shonts or under consultation with him and such powers as you have and things you may do that he has the right to revoke. Just describe your own powers, as nearly as you understand them and as you execute them.

Mr. DRAKE. As I am doing now?

Senator MORGAN. Yes.

Mr. DRAKE. I am exercising all the powers of an operating officer in New York. I sign checks and vouchers and direct the operations of the company, all subject to his approval, communicating with him directly upon any question of doubt, for instructions, holding up any effective action until I have had his approval. I consider that my authority is limited by his approval of what I may be about to do, except in the ordinary course of business of the corporation.

Senator MORGAN. As to what you have done, if that is within the ordinary course of business, the approval is a matter of course?

Mr. DRAKE. Yes, sir.

Senator MORGAN. It is approved unless objection is made?

Mr. DRAKE. Yes, sir.

Senator MORGAN. But if objection is made, the act is not undone, but your responsibility commences. That is how it is.

Mr. DRAKE. I have been very fortunate in securing his approval, so far.

Senator MORGAN. I have no doubt of that, and I think the railroad company has been very fortunate to have you.

Mr. DRAKE. Thank you, Senator.

Senator MORGAN. That is my view of it. Now, you have had the direction, therefore, of the purchasing agent for the railroad company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. He has been under your control?

Mr. DRAKE. Not directly. So far as purchasing for the account of the railroad company was concerned, I had absolute control over him until there was constituted by the Isthmian Canal Commission a general purchasing department, and the appointment of a general purchasing officer was made, who has charge of the purchasing for account of the Isthmian Canal Commission and for the railroad.

Senator MORGAN. Who is he?

Mr. DRAKE. D. W. ROSS. He is located in Washington. He has the authority to appoint subordinates at different points in the United States, and he availed himself of that authority to appoint the previous purchasing agent of the railroad company as his assistant in New York. That man is now the assistant purchasing agent and shipping agent.

Senator MORGAN. As to the railroad, it has not at the present time any purchasing agent?

Mr. DRAKE. Oh, yes, sir.

Senator MORGAN. Who is he?

Mr. DRAKE. It has no separate purchasing agent. This assistant purchasing agent of the general purchasing officer——

Senator MORGAN. I am talking about a separate purchasing agent, or one that acts for the railroad and for nobody else.

Mr. DRAKE. He acts for the railroad alone.

Senator MORGAN. Only for the railroad?

Mr. DRAKE. Not only for the railroad; no, sir. Well, even that I must qualify. All of the expenses of the assistant purchasing agent's office are paid, primarily, by the railroad company, but are distributed two-thirds to the railroad company and one-third to the Commission, because part of his time is taken up in purchasing or supervising shipments for the account of the Commission, and the balance of his time is devoted entirely to the railroad company. Hence the railroad company pays two-thirds of the cost of his office. Part of his duty is to purchase every item of supply that is required by the railroad company anywhere in its plant. If a board is required to sheathe the dock with, the inspecting engineer who has to make the repair has to call on him to buy it.

Senator MORGAN. Does the purchasing agent make purchases for the Canal Commission?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And he keeps a separate account of them?

Mr. DRAKE. He may do that; yes. Under direction of the general purchasing agent he advertises for supplies for the Commission in New York.

Senator MORGAN. That is, under Ross's direction?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And how does he make the purchases for the railroad company; under advertisement?

Mr. DRAKE. Yes, sir. By resolution of the executive committee all supplies of every character, except such as are needed immediately for sustenance—perishable goods, such as eggs, butter, vegetables, and things of that kind, that have to be furnished regularly on requisition—are requisitioned for on a regular form. They pass under my eye, and if there is anything extraordinary about them, as far as the New York end is concerned, I have them corrected, cut down, or whatever may be necessary, and they pass to him and he purchases them.

Senator MORGAN. All requisitions, therefore, that are made for purchases—

Mr. DRAKE. For material and supplies.

Senator MORGAN (continuing). For the railroad company pass under your eye?

Mr. DRAKE. Yes, sir; but I have a general direction—I have a specific direction from the president of the company not to modify requisitions that come from the Isthmus, because he holds them responsible there for ordering what they require.

Senator MORGAN. But you do modify those made by the purchasing agent of the railroad company?

Mr. DRAKE. Those made by the steamship line or by the New York office.

Senator MORGAN. That is the purchasing agent of the railroad company?

Mr. DRAKE. No, sir; the requisitions are not made by the agent. They are forwarded to him. The requisitions are made by the terminal superintendent of the steamship line, for instance, or by the New York office.

Senator MORGAN. I am trying to untangle a mixture that seems to be rather beyond my power of description or almost of inquiry.

The CHAIRMAN. I think you are getting along first-rate, Senator.

Mr. DRAKE. Do I not answer your questions intelligently enough, Senator, or explicitly? I would like to, if I can.

Senator MORGAN. I wish you would. You have got a purchasing agent for the railroad?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That man is under your direction as to railroad purchases?

Mr. DRAKE. Yes, sir; as to railroad purchases.

Senator MORGAN. He is also acting as the purchasing agent for the Canal Commission?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And he is under the direction of the Canal Commission as to matters that are confided to him in that capacity?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Does he keep separate accounts?

Mr. DRAKE. Yes, sir.

Senator MORGAN. He refers these vouchers that relate to the railroad to you for approval.

Mr. DRAKE. Yes, sir.

Senator MORGAN. And those that relate to the canal he refers to Mr. Ross?

Mr. DRAKE. Yes, sir.

Senator MORGAN. There the separation takes place?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And he got into this double capacity from the fact that he was appointed by the Canal Commission as purchasing agent in New York for that Commission?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You spoke of a large amount of coal that you were going up to-morrow to see about that had been purchased?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Is that exclusively for the railroad?

Mr. DRAKE. Exclusively for the railroad, yes; to be supplied to the Commission at cost delivered on the Isthmus, plus a slight percentage for handling to point of destination.

Senator MORGAN. It is bought for the railroad?

Mr. DRAKE. It is bought for the railroad; yes, sir.

Senator MORGAN. And to be delivered to the Commission on the Isthmus?

Mr. DRAKE. As required; as called for.

Senator MORGAN. As required?

Mr. DRAKE. Yes, sir.

Senator MORGAN. It was not bought, then, for the use of the railroad?

Mr. DRAKE. It was bought for the use of the railroad and for sale to anybody who wants it. The railroad sells coal on the Isthmus.

Senator MORGAN. Those coal purchases are made really for the use of the Commission?

Mr. DRAKE. No, sir; they are made for the account of the railroad company, for its own uses. The railroad company uses 30,000 tons a year in operating the railroad and the balance is for sale to the Commission, or to connecting carriers, or to consumers on the Isthmus of all kinds.

Senator MORGAN. Then the railroad company is engaged in buying coal in the New York markets, or wherever they can find it, and sending it to the Isthmus and selling it to the Commission?

Mr. DRAKE. Using it first and selling it.

Senator MORGAN. But I am talking about the amount of coal they are going to dispose of.

Mr. DRAKE. Yes, sir.

Senator MORGAN. They are selling it first to the Commission and next to general consumers?

Mr. DRAKE. Yes, sir.

Senator MORGAN. To the Panamanians?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Or to anybody else that wants to buy it?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Is there any resolution or order of the railroad directors or of the executive committee that authorizes this purchasing agent to buy coal in the markets of New York or elsewhere, and to sell it to the Isthmian Canal Commission?

Mr. DRAKE. Yes, sir; there is a resolution adopted by the Isthmian Canal Commission; I believe I have the records; that the railroad company should buy all of the coal used by the Commission.

Senator MORGAN. That is the very point I am trying to get at. I want to know what your records show in the direction of authorizing this purchasing agent of the railroad company to buy coal for sale to the Isthmian Canal Commission or to private purchasers.

Mr. DRAKE. He has nothing to do with it, Senator, excepting to issue the proposals and get out the forms under the resolution that that you will find in the minutes.

Senator MORGAN. I am not asking about what he does, but about what his powers are. Where does he get his authority?

Mr. DRAKE. He got his authority to invite bids and proposals from me.

Senator MORGAN. From you?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Where did you get your authority to invite bids and proposals for coal to be sold to the Isthmian Canal Commission?

Mr. DRAKE. My authority was to invite bids for coal to be supplied to the Panama Railroad Company by order of the board of directors. The executive officers—not myself particularly, but the executive officers—were authorized to invite bids for the supply of coal to meet the company's requirements at the Isthmus for the ensuing twelve months from April 1, 1906, and those proposals were issued some time ago and are to be opened to-morrow, or rather the 25th.

Senator MORGAN. I think you must understand, Mr. Drake, what I am trying to get at. I want to know where the authority came from to anybody, to you or to the purchasing agent or anybody else connected with the railroad to buy coal for the purpose of selling it to the Isthmian Canal Commission or to private dealers on the Isthmus.

Mr. DRAKE. I do not think that there is any authority except that the railroad has been doing it for forty years—selling to anybody who wanted to buy coal of it, because it is the only one who has the plant or the means of handling any quantity of coal on the Isthmus, and it has been the source of supply to those who need coal there.

Senator MORGAN. This old practice of forty years, then, is kept up?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Without change?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And the railroad company is doing what it used to do—selling coal to the Isthmian Canal Company?

Mr. DRAKE. The French Canal Company used to buy its own coal abroad, except in case of emergency, and then it would buy it from the railroad company; but since the old French Canal Company ceased operations the railroad company has sold all the coal that has been sold on the Isthmus.

Senator MORGAN. Has any order been given to this man, Mr. Walker, who represents the railroad company, and in his character as representative of the railroad company, to buy coal to supply the wants of the Isthmian Canal Commission?

Mr. DRAKE. No, sir.

Senator MORGAN. How do you get the estimates of how much coal they will take?

Mr. DRAKE. Allow me to interrupt for a moment, Senator. You used the name "Walker" inadvertently. You meant Anderson, the purchasing agent?

Senator MORGAN. Yes.

Mr. DRAKE. You used the name Walker inadvertently?

Senator MORGAN. Yes; I meant the purchasing agent.

Mr. DRAKE. We are advised about the sailing of every ship from the Isthmus, and by the same cable we are advised of the quantity of coal they have on hand, and we order forward from the loading point coal in sufficient quantity to keep them supplied, with a minimum quantity on hand. The consumption of coal has increased very rapidly lately, until at times I think they had a minimum quantity of ten or twelve thousand tons on hand, and it is being used at the rate of 75,000 or 80,000 or 85,000 tons a year.

Senator MORGAN. Is the railroad company furnishing coal to the Isthmian Canal Commission on the same terms that it furnished coal formerly to the New Panama Canal Company?

Mr. DRAKE. Oh, very much cheaper, sir; 50 per cent less. It used to furnish the New Panama Canal Company with coal, for instance, at \$12 at Panama, and \$9 along the line of the road, and \$8 at Colon. It is selling it to the present Commission at \$5 or less than \$5—\$4.95—about \$5 at Colon and \$6 along the line of the road.

Senator MORGAN. Before the railroad was turned over to the United States, and the canal also, the railroad company was doing a pretty thriving business selling coal to the canal company, was it not?

Mr. DRAKE. It never sold any large amount, sir.

Senator MORGAN. But it sold for heavy prices?

Mr. DRAKE. It sold for higher prices than it is selling for now; yes, sir; very much.

Senator MORGAN. It sold then for about twice as much as you get now?

Mr. DRAKE. Yes; but we did not sell in quantity. We used to order 10,000 to 50,000 tons, and now we order up to 125,000 tons. The canal operations have increased the consumption.

Senator MORGAN. What you are losing in price you are making up in the quantity of the traffic?

Mr. DRAKE. Yes, sir. There is not much profit on it now. We are selling it so cheaply to the Canal Commission that there is no profit.

Senator MORGAN. There is not so much profit to the ton, but there is more in the aggregate?

Mr. DRAKE. There is a great deal more coal, of course.

Senator MORGAN. It is a bigger job and you make more money than you did before?

Mr. DRAKE. In the aggregate—I do not know, sir. I would have to find out about that.

Senator MORGAN. But it certainly must be so?

Mr. DRAKE. Yes, sir; I should judge so.

Senator MORGAN. This purchasing of coal that is done by the purchasing agent in New York is never done for the benefit of the Isthmian Canal Commission?

Mr. DRAKE. No, sir.

Senator MORGAN. It is all made for the benefit of the railroad?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And then the railroad has the control and ownership of the steamers that carry it down?

Mr. DRAKE. No, sir. At the same time that we make a contract for coal, so as to know what it is going to cost us down there, we make a contract for transportation of all up to the amount we have purchased, so that the combined cost of the coal at the loading point and its carriage to the Isthmus represent the cost of the coal laid down there. So that coincidentally we have invited bids from steamship lines to carry the coal to the Isthmus, and these bids will be opened at the same time that the bids for the coal are opened.

Senator MORGAN. You mean other steamship lines than those owned by the railroad company?

Mr. DRAKE. The tramp steamers carry it. They are all foreign steamers that carry bunk cargo to the Isthmus. American ships can not compete.

Senator MORGAN. They are tramps?

Mr. DRAKE. Yes, sir.

Senator MORGAN. They are the men that can not get the issue of the 25 per cent—

Mr. DRAKE. These are heavy cargo boats—

Senator MORGAN. I understand. Is that coal bought for delivery in Panama or Colon?

Mr. DRAKE. At Colon.

Senator MORGAN. So that the railroad takes it up and charges freight on it to Panama if it has to go that far?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Or wherever it hauls it to on the railroad?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Which adds an additional charge of so much a ton?

Mr. DRAKE. Six dollars we charge to the Commission for it delivered anywhere along the line of the road. Other people at the ports just beyond, the next port to Panama where coal is sold, charge \$18 for a very inferior coal. We send down a high-grade coal and sell it for \$6 to the Commission.

Senator MORGAN. Under whose direction is this coal purchased?

Mr. DRAKE. Under the authority of the board of directors. The executive officers are authorized by resolution—

Senator MORGAN. It is purchased under your direction?

Mr. DRAKE. No, sir; I am acting as an executive officer under the resolution adopted by the board of directors.

Senator MORGAN. By the board of directors or the executive committee?

Mr. DRAKE. By the board of directors.

Senator MORGAN. Do they take an account of all the coal purchases that are made?

Mr. DRAKE. They authorize the bids. Under the authority to invite bids the final action for making the award would be reported to the president. My first act after opening all of the bids, both for the coal and for its transportation, would be to have them tabulated, so as to show the results and make a recommendation accordingly.

Senator MORGAN. Has the purchasing agent of the Panama Railroad any standing contracts with coal producers for the purchase of coal?

Mr. DRAKE. No, sir. The railroad company has had.

Senator MORGAN. With whom?

Mr. DRAKE. Last year they bought coal for the Isthmus from the Pocahontas Coal Company and coal for its steamers in New York from the Berwyn-White Coal Company—two classes of coal, one for consumption on the Isthmus and the other for the consumption of the steamers.

Senator MORGAN. That coal was not bought under biddings?

Mr. DRAKE. Oh, yes, sir; always.

Senator MORGAN. I thought you said they had a standing contract?

Mr. DRAKE. The contract was entered into in the spring of each year for the ensuing twelve months. Now that that contract is about to expire or has expired, because we have used the maximum quantity, we have invited bids for the supply for the coming year, and those bids are to be opened to-morrow.

Senator MORGAN. And you have no standing contract for another year?

Mr. DRAKE. Not now; but we are getting our supply, fortunately. The strike threatened to cause trouble about the coal; but I was able to arrange with the coal companies to continue furnishing us coal, and with the carrying company to continue carrying coal, under authority from Mr. Shonts, until we were able to make a new contract. That covers a period of a week or two weeks.

Senator MORGAN. Either that purchasing agent or yourself has the control of the supply of coal for Isthmian consumption through and through, have you not?

Mr. DRAKE. No, sir.

Senator MORGAN. Have the Isthmian Canal Commission resolved in any way or given any intimation or notice that they will buy coal for themselves from anybody else except the railroad?

Mr. DRAKE. They did last year. The Commission invited bids for 50,000 tons of coal, to see whether they could do better than they had been doing with the railroad company and they accepted a bid of the Fairmont Coal Company. That contract gave them the right to use a minimum quantity of 10,000 tons or take the whole 50,000 tons. The cargoes were sent down at \$3.70 per ton delivered down there, which was about 30 cents a ton cheaper than the cost of the coal we had been sending down.

After very exhaustive tests of the result of operating with that coal, the general manager advised that, if possible, the contract be canceled. It had meanwhile been transferred to the railroad company by the Commission, and by agreement with the Fairmont Company it was canceled. The conclusion, in a very exhaustive report from the general manager, Mr. Stevens, was that to be equal in value to the Pocahontas coal, that was costing \$4.95, the Fairmont coal should have cost \$3.48 instead of \$3.70; so that the higher-priced coal was more effective, and it has continued to be used.

Senator MORGAN. So that you gave up that contract and went back to the Pocahontas coal?

Mr. DRAKE. The Commission gave up the only coal contract it had and resumed the practice of buying coal from the railroad company.

Senator MORGAN. If the railroad was purchasing on its own account and for sale to private parties, as well as to the Isthmian Canal Commission, why would it give up that advantage?

Mr. DRAKE. There is no reason why it should, sir.

Senator MORGAN. Is it not a fact that the railroad company under your administration is absolutely under the control and direction of the Isthmian Canal Commission?

Mr. DRAKE. The Isthmian Canal Commission constitutes a majority of our board of directors.

Senator MORGAN. I am not asking you that. I just asked if what I have stated is not actually the fact?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You are practically under the control of the Isthmian Canal Commission?

Mr. DRAKE. Absolutely.

Senator MORGAN. You would feel obliged to obey any order that they give you?

Mr. DRAKE. Why, of course.

Senator MORGAN. That seems to identify the two establishments pretty closely so far as you are concerned.

Mr. DRAKE. Of course, Senator, you will understand that it is an effect. The seven members of the Commission are members of our board, which consists of thirteen members—

Senator MORGAN. I can see the effect, all right, but I can see the cause just as well, and I do not lose sight of the cause by looking at the effect.

Mr. DRAKE. If I received an order from the Isthmian Canal Commission to do anything in the railroad company I would not do it until I received it from Mr. Shonts as president.

Senator MORGAN. I only wish to say that I do not see any common sense or business sense, or any fairness in keeping up this phantasm, this imaginary corporation, to stand in the way and to do all the business that the Isthmian Canal Company should do for itself. That is my opinion about that situation, and that is what I am trying to prove.

Senator TALIAFERRO. May I ask a question here, Senator?

Senator MORGAN. Certainly.

Senator TALIAFERRO. Mr. Drake, I notice in the minutes of the board of directors' meeting of April 29, 1903, this authorization [reading]:

"General Counsel Cromwell presented the following resolution, which, upon his motion, was duly and unanimously adopted, namely:

"*Resolved*, That the first and second vice-presidents of this company be, and they are hereby, appointed a special committee to inquire into all matters of unsettled account, claims, demands, or liabilities of any nature whatsoever, if any exist, upon the part of the Panama Railroad Company against the New Panama Canal Company, or upon the part of the said company against said railroad company, and to audit, adjust, state, and agree upon with the said canal company any and all such unsettled accounts, claims, demands, or liabilities, and agree with said company upon the method of payment or discharge of the same, if any exist, and to report to the board their action in the premises."

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. Do you recall that?

Mr. DRAKE. Yes, sir.

Senator MORGAN. What was the date of that, Senator?

Senator TALIAFERRO. April 9, 1903.

Senator MORGAN. A year before we got possession?

Senator TALIAFERRO. Yes. Has any report been made, Mr. Drake?

Mr. DRAKE. Yes, sir. The members of that committee were Mr. Whaley, the vice-president, in Paris, and myself, the second vice-president, in New York. The report was made and filed. Before that report was adopted it had been well established that there were no claims existing. It was with the purpose of absolutely establishing the fact by verification of accounts, by the rendition of accounts by and between the two companies covering all classes of items, and with the hope of establishing the fact that that had been done, that this committee was appointed. The committee acted and made a report which is on file, showing that all claims of every kind between the two companies had been absolutely settled and that no claim existed one against the other of any nature whatever.

Senator TALIAFERRO. Where is that report?

Mr. DRAKE. It should be embodied in the minutes there. Is it not? Have you looked?

Senator TALIAFERRO. I have not examined them.

Mr. DRAKE. It should be embodied in the minutes, and I presume it is. If it is not, it is on file with all the reports.

Senator TALIAFERRO. Will you look over the minutes at your convenience and see if it is embodied in them, and if it is not, will you see that the committee receives a copy of it?

Mr. DRAKE. Yes, sir.

(The committee thereupon took the usual noon recess until 2 o'clock p. m.)

AFTER RECESS.

TESTIMONY OF EDWARD A. DRAKE, ESQ.—Continued.

Senator MORGAN. Mr. Drake, you have mentioned the terms upon which this coal was furnished by the railway company to the Isthmian Canal Commission—you mentioned the terms?

Mr. DRAKE. Yes, sir.

Senator MORGAN. What were they?

Mr. DRAKE. It was sold at cost at Colon, plus a slight percentage for handling on the railroad—cost delivered at Colon to the railroad, plus 20 cents, I think it is, for cost of handling.

Senator MORGAN. By that you mean the charge for freight?

Mr. DRAKE. The cost of the coal plus the cost of the freight to Colon, and 20 cents.

Senator MORGAN. Twenty cents a ton?

Mr. DRAKE. Twenty cents a ton; yes, sir.

Senator MORGAN. That was to cover expenses?

Mr. DRAKE. To cover expenses of taking it from the ship, putting it on cars, and carrying it—that is, at Colon. Along the line of the road and at Panama, which is beyond Colon, the price is \$6 a ton.

Senator MORGAN. The price was fixed at \$6?

Mr. DRAKE. Six dollars along the line of road and at Panama.

Senator MORGAN. And at Panama; and what was it at Colon?

Mr. DRAKE. At Colon it is the cost delivered at Colon, plus about 20 cents. That is, if the coal cost \$2.65 f. o. b. at Norfolk, and cost us \$1.65 to carry down, there would be 5 cents for insurance and loss, and that would make the coal cost us \$4.35 delivered. The coal would be sold to the Commission at \$4.55 at Colon, and it would

be sold to the Commission at Panama at \$6 and at any point between Colon and Panama. That would be the difference to cover the cost of the loading on the car and the hauling to the point where it is delivered, the purpose being to have the coal delivered to the Commission as near cost as possible.

Senator MORGAN. As near what you paid the mines for it as possible?

Mr. DRAKE. Yes, sir; and the expense of carrying it down there.

Senator MORGAN. I suppose you are familiar with all of these purchases of coal?

Mr. DRAKE. Yes, sir; I have made them, or superintended them, for years.

Senator MORGAN. Are your contracts with the mines?

Mr. DRAKE. Not directly; our contracts are with the representatives of the miners, the agents. That would be indirectly with the mines.

Senator MORGAN. That is what I mean.

Mr. DRAKE. Yes, sir. Our contracts have been to deliver us any amount of coal we call for during twelve months between a minimum amount and a maximum amount aboard ships that we send there for it at a contract price.

Senator MORGAN. Between a minimum and a maximum?

Mr. DRAKE. Of quantity.

Senator MORGAN. Of quantity?

Mr. DRAKE. Yes, sir. We need not take any more than the minimum if we want to. If we can do better during the year after we reach the minimum, we are at liberty to do so.

Senator MORGAN. How many mining companies did you have contracts with?

Mr. DRAKE. One only, sir.

Senator MORGAN. What was that?

Mr. DRAKE. The Pocahontas Coal Company.

Senator MORGAN. Has that been so ever since the Commission went into possession of the railroad?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You have bought your supplies entirely from the Pocahontas company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Was that done under biddings?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Were there competitors in the biddings?

Mr. DRAKE. Always.

Senator MORGAN. How many years has the Pocahontas company had the control of this business?

Mr. DRAKE. We have bought Pocahontas coal almost exclusively for six or eight years, because it is established—we supply coal to the vessels of the United States Navy, we supply coal to the Isthmian Commission, we supply coal to steamship lines on the other side, and they all require a high-grade coal; and the Pocahontas coal is recognizedly the highest grade or the best quality, the most effective steam coal to be obtained in this country.

Senator MORGAN. Now, commencing from May, 1904, down to the present time, taking the annual arrangements, how much coal have you bought each year from the Pocahontas Company?

Mr. DRAKE. I think we bought up to 50,000 tons in the year 1904-5, and we have bought 65,000 tons in the year 1905-6.

Senator MORGAN. Was that the entire supply that you made to the Isthmian Canal Commission?

Mr. DRAKE. That was the entire supply that we purchased for the railroad company, out of which the Isthmian Canal Commission was supplied.

Senator MORGAN. Did the steamers on the other side get some of that coal?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And it was all covered in this 65,000 tons?

Mr. DRAKE. Yes, sir; so far. But the rapid increase in consumption has come within the last few months, because the canal operations have been more active.

Senator MORGAN. In the biddings that you are going to open tomorrow what amount of coal do you call for?

Mr. DRAKE. We call for up to 125,000 tons, because we expect that during the coming year we will require more than we have at any time heretofore.

Senator MORGAN. Has the Pocahontas company maintained regularity of prices with you?

Mr. DRAKE. Yes, sir; they have a uniform price at the time they make the contract.

Senator MORGAN. What is that?

Mr. DRAKE. The price last year was \$2.60 from April to October and \$2.65 from October to April.

Senator MORGAN. Delivered where?

Mr. DRAKE. At Norfolk; on board steamers at Norfolk.

Senator MORGAN. Norfolk, Va.?

Mr. DRAKE. Yes, sir.

Senator MORGAN. On board of whose steamers?

Mr. DRAKE. On board of the steamers that we send there, under our transportation contract, to carry to the Isthmus.

Senator MORGAN. You send your own steamers there?

Mr. DRAKE. Not our steamers; no, sir.

Senator MORGAN. You charter steamers?

Mr. DRAKE. No; we make a tonnage contract with a firm that have steamers, and they send their steamers there under that contract.

Senator MORGAN. What firm is that?

Mr. DRAKE. For the last two or three years it has been with the Earn line—the Earn Steamship Line.

Senator MORGAN. Is that a line sailing under the American flag?

Mr. DRAKE. No, sir.

Senator MORGAN. It is a foreign line?

Mr. DRAKE. It sails under a foreign flag, sir; different nationalities; whatever ships they have under charter.

Senator MORGAN. Do you charter these ships, or get the contracts for freights, under biddings?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Annual biddings?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You let out a contract for a year?

Mr. DRAKE. Yes, sir.

Senator MORGAN. So you buy the coal under annual contracts, and you let out the transportation under annual contracts?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you do not carry any of it on your own ships?

Mr. DRAKE. No, sir. From these foreign lines we get very low rates, because the lines are engaged in bringing homeward to the United States ore, manganese ore from the south of Cuba; this gives them a cargo out, and the ore makes their cargo home; so that the Earn Line have that business to the exclusion of all others. They have a very large contract of that kind, and they are able to make us lower prices. For instance, last year they made a price of \$1.45 a ton against other bids ranging as high as \$2; and this year they have made a price so far of \$1.65 against \$1.90 to \$2 with all the other lines. So we accepted a contract with them and have continued it.

Senator MORGAN. What did you pay the first year that the Commission was there for freights?

Mr. DRAKE. \$1.45.

Senator MORGAN. Then the second year how much?

Mr. DRAKE. \$1.60.

Senator MORGAN. What are you going to pay next year?

Mr. DRAKE. I do not know yet, sir, until the bids are opened, until the awards are made. Ad interim, in the interval, we are paying \$1.65. The price to Colon is very much higher in the open market, but we expect to be able to make a contract at \$1.65.

Senator MORGAN. With this same company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You expect to make a contract with the Pocahontas Company on the same basis that you had last year, do you?

Mr. DRAKE. No, sir. I believe coal has advanced somewhat lately—5 or 10 cents a ton.

Senator MORGAN. Yes. You expect that their bid will be the top of the market for their coal?

Mr. DRAKE. Yes, sir—as low as to anybody. They make a uniform price to everybody. They never vary it at all.

Senator MORGAN. They sell to every corner at the same price?

Mr. DRAKE. Yes, sir. Our only advantage is in preference as to delivery and regular service, because we require so much.

Senator MORGAN. These coals are not delivered in New York, then, before they are shipped to Colon?

Mr. DRAKE. No, sir. We invite bids at all loading points—Mobile, or anywhere where coal could be delivered, at any Atlantic or Gulf ports. We require that they shall furnish an analysis of their coal, and give us the price and the option to take as much as we want of 125,000 tons, deliverable, as we call for it, to steamers that we send there for it.

Senator MORGAN. I suppose you know to-day that the Pocahontas Company will get the contract to-morrow?

Mr. DRAKE. No; I do not. I know this, that the Pocahontas coal is specified by the United States Navy. We have a contract with the United States Navy to supply the naval vessels with coal.

Senator MORGAN. And they specify Pocahontas coal?

Mr. DRAKE. And they specify Pocahontas coal, because 123 United States captains out of 127 reported that the tests of the Pocahontas coal showed the highest grade of efficiency, and for that reason it is

preferred as a naval coal. We prefer it for the same reason that the Navy Department prefers it. I am not advertising the coal; I am only justifying the use of it.

Senator MORGAN. What reason exists why this railroad company should buy coal for the Navy?

Mr. DRAKE. The Navy avail themselves of our having it there to supply their vessels. They make a contract with the railroad company, the same as they do at all coaling points all over the world; they publish them annually; it is a regular public document. They publish a notice to the United States naval officers that they can obtain coal at different points, under arrangements made by the Navy Department, of such a quality and at such a price, and that if that quality of coal is sold at that point any cheaper during the year they must get it cheaper.

Senator MORGAN. About how many tons during each of these two years has the Navy taken from you?

Mr. DRAKE. Various amounts, sir; I do not know exactly. During troublous times down there they took a great deal. During the time of the strike, when the White Squadron went down to the Caribbean, they relied almost entirely upon our people. We had a very large supply on hand, and they went there because they could not get coal elsewhere. But we have a regular contract with the Government for supplying naval vessels, and we are expected to supply them all that they call for.

Senator MORGAN. Is the railroad company supplying coal to the steamers down there in the Caribbean, as well as at Colon?

Mr. DRAKE. Colon is on the Caribbean, sir.

Senator MORGAN. I know it is on the Caribbean; but I speak of the balance. Do they supply the fleet in the Caribbean?

Mr. DRAKE. Only when they go to Colon for it; that is all, sir.

Senator MORGAN. They supply the station at Colon?

Mr. DRAKE. That is all, sir.

Senator MORGAN. No more?

Mr. DRAKE. No more.

Senator MORGAN. But they supply the steamers that run under your traffic arrangements on the Pacific.

Mr. DRAKE. On the Pacific, if they call for it. If they call for it they get it, sir, but at a much higher price.

Senator MORGAN. You have an understanding with them that they will call for it?

Mr. DRAKE. Yes; that they may call for it.

Senator MORGAN. Have you any understanding with them that you will supply them?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That they will take it?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That is a contract, is it not?

Mr. DRAKE. No, sir; just an understanding. We are not obliged to supply them at all. When they call for the coal and we have it for them we give it to them. There is no obligation at all, but we do give it to them.

Senator MORGAN. You take pains to be always ready to supply the coal?

Mr. DRAKE. We try to.

Senator MORGAN. Yes. You make a profit out of it?

Mr. DRAKE. Yes, sir.

Senator MORGAN. How much a ton do you charge them for that coal?

Mr. DRAKE. The coal on the Pacific is delivered into lighters, so there is an extra service performed, and we charge them \$8.75 per ton.

Senator MORGAN. How much is that above the price for which you sell it to the canal?

Mr. DRAKE. One dollar and seventy-five cents.

Senator MORGAN. \$1.75 a ton?

Mr. DRAKE. Yes, sir.

Senator MORGAN. How much is it above the price that you sell it for to the citizens of Panama?

Mr. DRAKE. Oh, it is lower. We do not sell much to the citizens of Panama; just in small quantities.

Senator MORGAN. But you do sell it?

Mr. DRAKE. We do sell it at various prices, up to \$10.

Senator MORGAN. Have you any competitors in the coal market at Colon?

Mr. DRAKE. No, sir; no one.

Senator MORGAN. You have the entire business?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Both for citizens and Pacific steamers, and naval steamers, United States steamers, and the canal?

Mr. DRAKE. Yes, sir.

Senator MORGAN. It is all in the hands of this railroad corporation?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you manage the whole business?

Mr. DRAKE. Not selling down there; I do not have anything to do with the selling or delivery down there.

Senator MORGAN. But I mean you manage the purchasing of the whole business?

Mr. DRAKE. Oh, yes, sir.

Senator MORGAN. So you do the whole of it up here, virtually?

Mr. DRAKE. Yes, sir; that is, the railroad company does it up here. The railroad company does it. I do not do all of it. I have control of it, though; I have charge of it.

Senator MORGAN. Well, I mean, it is under your control?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And your steamers never take any of it out?

Mr. DRAKE. No, sir.

Senator MORGAN. They always carry it on these hulks?

Mr. DRAKE. These tramps; yes, sir.

Senator MORGAN. Are they sailing ships, or not?

Mr. DRAKE. They are steam vessels, sir.

Senator MORGAN. Who regulates the price of freights between New York and Colon on your steamers?

Mr. DRAKE. The traffic manager.

Senator MORGAN. The traffic manager?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Are they always up with the market, or below?

Mr. DRAKE. They are always up with the market. We have a regular tariff that we charge for everybody.

Senator MORGAN. But you modify that to suit the market, do you not?

Mr. DRAKE. It does not change. If there is competition, and it is necessary to make lower rates to get business, if we are short of business and he can get a cargo by making a lower rate, he would do it.

Senator MORGAN. He has done it, has he not?

Mr. DRAKE. Yes, sir.

Senator MORGAN. On frequent occasions?

Mr. DRAKE. Well, I do not think it has been necessary to do it frequently, because the business is not large.

Senator MORGAN. Then your purchasing agent is in the market at New York for freights?

Mr. DRAKE. No, sir—the traffic manager, I said.

Senator MORGAN. I mean your traffic manager?

Mr. DRAKE. Oh, yes, sir.

Senator MORGAN. He is in the market for getting goods for shipment?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Do your steamers generally go out loaded?

Mr. DRAKE. They go out full; yes, sir.

Senator MORGAN. How do they come back?

Mr. DRAKE. Recently they have been coming back very light, because the business has fallen off from the west coast, and because the business has been divided by these other lines that have been put in.

Senator MORGAN. Which lines—these lines that you mentioned a while ago?

Mr. DRAKE. The Hamburg-American and the Royal Mail Steam Packet Company.

Senator MORGAN. Those that have the right to transport freight at 25 per cent of the income charges?

Mr. DRAKE. Yes, sir.

Senator MORGAN. So those ships are in competition with those of the railroad now?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And sometimes the market drops, the rate of freights?

Mr. DRAKE. No; sometimes—we can not control what they do, and they may offer inducements. They undertake to maintain rates; they undertake to charge the same rates that we do, but they can make concessions or allowances that we can not.

Senator MORGAN. And they do it?

Mr. DRAKE. They do it, in the shape—we imagine or understand that they do it by paying commissions.

Senator MORGAN. Those are rebates?

Mr. DRAKE. No; they are commissions to the agents to procure business for them. Very often the agents of the steamship lines are merchants themselves, and they are allowed a commission for getting the business for the other line. We can not do that.

Senator MORGAN. What kind of freight do you take out from New York to Colon?

Mr. DRAKE. All classes of freight, sir. We carry out all classes of material for the Isthmian Canal Commission; all of the supplies of the railroad company; all freight consigned to the Isthmus by the ship-

ping public, and all freight shipped to the west coast of North and South America and to San Francisco.

Senator MORGAN. You carry the material that is to be used, all of the supplies that are to be used, by the railway and also by the Canal Commission? You ship all of that on your own vessels?

Mr. DRAKE. Yes, sir; all except what is bought by the purchasing department of the Commission, delivered at the Isthmus in some other way.

Senator MORGAN. Yes.

Mr. DRAKE. We carry all that is consigned to our line.

Senator MORGAN. Yes. The railroad company has a pretty large income from this property in which the Government is not interested?

Mr. DRAKE. It did have; it has not had recently. The rates over the railroad and the rates over the steamship line for account of the Commission were reduced very materially by Mr. Wallace when he was the vice-president and general manager, at the same time that he was chief engineer of the canal, with a view to reducing the cost of canal construction; and that business was very unremunerative to the railroad and to the steamship line. The rates were cut very seriously, his idea being, as he expressed it—I believe he has expressed it here—that the railroad, in its operation now, should approximate as nearly as possible to the conditions that would prevail when the canal was finished. He said that he did not care whether the railroad made a profit or not. During the time that those reductions were in force the steamship line did not make money out of that business. Recently, because of the effect on the business, those rates have been restored.

Senator MORGAN. Then the other supplies besides the coal that was bought for the use of the railway company, and also for the use of the canal, are deliverable at New York?

Mr. DRAKE. Some of them are delivered at New York.

Senator MORGAN. How about the great bulk of it?

Mr. DRAKE. You mean the bulk that is bought for the railroad for sale to the canal?

Senator MORGAN. Yes.

Mr. DRAKE. The great bulk of it is bought delivered to our steamers here, bought f. o. b. New York—all perishable material and consumable stores.

Senator MORGAN. Does your purchasing agent there buy in any other market besides New York?

Mr. DRAKE. All over the United States and Europe—anywhere where he can buy the cheapest.

Senator MORGAN. Well, does he buy?

Mr. DRAKE. Yes, sir. He just bought, the other day, \$40,000 worth of iron in Europe?

Senator MORGAN. In Europe?

Mr. DRAKE. Yes, sir; and just before I came away he was placing another contract abroad.

Senator MORGAN. What kind of iron was that?

Mr. DRAKE. Miscellaneous—all grades of iron.

Senator MORGAN. All grades?

Mr. DRAKE. Yes, sir; bar iron principally.

Senator MORGAN. Principally bar iron. What did it cost?

Mr. DRAKE. I do not know, sir.

Senator MORGAN. You do not know?

Mr. DRAKE. No, sir.

Senator MORGAN. You have not audited that purchase yet?

Mr. DRAKE. Well, if I had I would not remember it, sir. It was competitive, and an award was made. I can not carry everything in my mind, sir.

Senator MORGAN. You found a cheaper market in Europe than you could find in the United States?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Or than you could find in New York—which was it?

Mr. DRAKE. Anywhere. He bought the material delivered at Colon cheaper in Europe than he could buy it anywhere else.

Senator HOPKINS. What material?

Mr. DRAKE. Bar iron.

Senator MORGAN. All descriptions of bar iron used down there. Well, do you buy any provisions, food, or anything of that sort for the Isthmus?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Clothing?

Mr. DRAKE. Everything—anything that is called for by our commissary department. The commissary department of the railroad is a very large plant now, and we buy everything that is called for, for sale to the employees of the railroad company or of the Commission.

Senator MORGAN. Then the purchasing agent of the railroad company buys for the Commission and also for the railroad?

Mr. DRAKE. He buys for the railroad company's commissaries, sir, which sell down there to the employees of the railroad and of the Commission. The railroad company is conducting the commissary department entirely.

Senator MORGAN. Entirely?

Mr. DRAKE. Entirely; yes, sir.

Senator MORGAN. Doing all the feeding that is done there of the laborers on the canal?

Mr. DRAKE. Selling all that is sold for account of the railroad company. They do not have to buy there; they may, though.

Senator MORGAN. They do not have to buy at the commissaries, you mean?

Mr. DRAKE. They are not obliged to. They can buy anywhere they like, but they have the right to buy at the commissary if they want to.

Senator MORGAN. I understand, but all of the commissary supplies that are furnished to the people down there of every class are furnished through the purchasing agent of the railroad company?

Mr. DRAKE. That is right, sir.

Senator MORGAN. Does the railroad company charge freight on these things?

Mr. DRAKE. They add to the cost of the articles purchased here, delivered to the steamship line, transportation to Colon, and then a small percentage—20 per cent, I think—to cover the unloading from the steamer and the handling and the sale and the distribution.

Senator MORGAN. I will take supplies for commissary purposes as an illustration; say that they cost a thousand dollars.

Mr. DRAKE. Yes, sir.

Senator MORGAN. You ship them to Colon. Now, give us the expenses upon that thousand dollars' worth of supplies by the time you get them out into, say, Culebra.

Mr. DRAKE. A thousand dollars—I will have to let that represent a quantity.

Senator MORGAN. Yes.

Mr. DRAKE. We will say it represents a ton.

Senator MORGAN. Yes; say it is a ton.

Mr. DRAKE. A ton of material; it would cost a thousand dollars delivered to our steamer at Pier 57, North River. It would cost \$5 for the railroad company, which has a rate of its own for its own supplies; the railroad company charges itself uniformly \$5 a ton. That would be \$1,005.

Senator MORGAN. Yes.

Mr. DRAKE. Then to that would be added 20 per cent, which would make approximately \$1,200 as the cost of the material laid down at Culebra, and it would be sold at \$1,200.

Senator MORGAN. Now, these are supplies bought for the commissaries?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Which are controlled by the railroad?

Mr. DRAKE. Entirely.

Senator MORGAN. And when they are sold to the Isthmian Canal Commission, or to the purchasers there, they go at the rate of \$1,200 for every thousand that is bought?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That is about a fair average?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Is there much of that done?

Mr. DRAKE. We have a very large stock of material on hand now.

Senator MORGAN. Where?

Mr. DRAKE. At the Isthmus. The coal and supplies in transit to the Isthmus now, and the amount of commissary stores on the Isthmus, amount to very nearly half a million dollars.

Senator MORGAN. And when you have delivered that into the hands of the Commission for its uses, it will go at the rate of 20 per cent added for all contingencies and freight?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Twenty per cent besides freight?

Mr. DRAKE. Yes, sir.

Senator MORGAN. If the railroad company was an independent body, it would be doing a pretty lively trade on that, would it not?

Mr. DRAKE. The business has developed very much lately, but it is exceptional. It has developed.

Senator MORGAN. I mean the rate of profit on that investment.

Mr. DRAKE. No, sir; there is not any great profit in handling it. The purpose is to get it as near cost as possible—as near the cost as possible to the Commission. The Commission is availing of the facilities of the railroad company for that purpose.

Senator MORGAN. Where are these provisions bought that your purchasing agent sends out there?

Mr. DRAKE. All over the United States, sir.

Senator MORGAN. Delivered in New York?

Mr. DRAKE. Not necessarily; they may be delivered at New Orleans.

Senator MORGAN. Well, what is the fact about it?

Mr. DRAKE. The fact is that there is a purchasing agent in New Orleans as well, one at Tacoma, and so on.

Senator MORGAN. There is a purchasing officer there, but what is the fact about the delivery of it?

Mr. DRAKE. The material is bought delivered at one of those ports. If it is bought delivered at New York——

Senator MORGAN. What proportion of it is delivered at New York as compared with all other ports?

Mr. DRAKE. A very large proportion.

Senator MORGAN. About how much?

Mr. DRAKE. Easily 80 per cent of it.

Senator MORGAN. Eighty per cent?

Mr. DRAKE. Yes, sir; easily.

Senator MORGAN. Then 80 per cent of all the supplies of every kind that are bought for the Isthmus——

Mr. DRAKE. Commissary supplies.

Senator MORGAN (continuing). Very good; that includes provisions of every character?

Mr. DRAKE. Yes, sir.

Senator MORGAN (continuing). Eighty per cent of that is bought in New York?

Mr. DRAKE. Bought in the markets and forwarded through New York. It may be bought anywhere. It may be bought in Springfield, or it may be bought in Duluth, or it may be bought in Chicago, or it may be bought in Pittsburg, or bought anywhere.

Senator MORGAN. But your purchasing agent makes a contract in New York?

Mr. DRAKE. Yes, sir.

Senator MORGAN. The man supplies it there?

Mr. DRAKE. He invites bids, and he makes the award to the man who makes the lowest bid, wherever he may be.

Senator MORGAN. The brokers supply him, I suppose—brokers and others?

Mr. DRAKE. No, sir; he buys as nearly as he can of the mills—of the principals.

Senator MORGAN. The proposition is, however, that 80 per cent, at least, of the supply of commissaries is obtained in New York, and it is obtained by your purchasing agents from persons in New York—80 per cent of it?

Mr. DRAKE. No, sir. I said that 80 per cent of the supplies were bought by the agent in New York, and he buys them in New York from people wherever they may be throughout the country.

Senator MORGAN. And you have \$500,000 in store now?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Does that include coal?

Mr. DRAKE. Yes, sir. We have a large quantity of coal on hand.

Senator TALIAFERRO. I notice in the minutes of the directors' meeting of January 19, 1906, Mr. Drake, some account of the sale of 648 4½ per cent first-mortgage bonds.

Mr. DRAKE. Six hundred and twenty-eight.

Senator TALIAFERRO. Six hundred and twenty-eight. The minutes seem to show that those bonds were sold because the railroad company was in stress for money.

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. And that they were redeemed, bought in again, and restored to the treasury of the company, because Congress had appropriated money for the Commission, and the railroad company had received assistance from that source. Is that correct?

Mr. DRAKE. Yes, sir; to this extent: That the Commission, being out of funds and owing the railroad company something like a half million dollars or more up to that time, had not paid its bills to the railroad company. The company needed money. It had to pay for the supplies and for the purposes of its operations; and the board of directors authorized the sale of the bonds that were in the treasury to raise that money after efforts had been made to borrow money on them.

Senator TALIAFERRO. Will you show me in the minutes where that authority was given for the sale of those bonds?

Mr. DRAKE. Shall I read it, sir?

Senator TALIAFERRO. Yes, sir.

Mr. DRAKE. The financial condition—this was at the previous meeting—the meeting of November 8.

Senator TALIAFERRO. Just read the part of it that authorizes the sale of the bonds, Mr. Drake; you need not read the entire proceedings.

Mr. DRAKE (reading). "*Resolved*, That the executive officers be, and they are hereby, authorized to sell the 628 Panama Railroad $4\frac{1}{2}$ per cent 20-year sinking-fund gold bonds now held in the Treasury at as favorable a price as possible, but not less than $104\frac{1}{2}$, the proceeds thereof to be applied to the purchase of equipment and the improvement of the company's facilities. And be it further resolved"—

Senator TALIAFERRO. That is sufficient; that seems to be the authority. Now turn to the repurchase of the bonds.

Mr. DRAKE. Yes, sir [turning to page referred to].

Senator TALIAFERRO. Does that set up the precise reason for the repurchase of those bonds?

Mr. DRAKE. Yes, sir—"that subsequently Congress had made appropriations by which the Isthmian Canal Commission was able to pay its indebtedness (in part) to this company, and it was determined advisable to repurchase said bonds at 105 and interest, or to redeem an equal amount at 105 at the next interest date if repurchase were impracticable; that the repurchase at 105 had been consummated, and that the bonds were now again in the treasury. On motion the action of the executive officers so recorded was approved and adopted."

Senator TALIAFERRO. Did the officers of the company, or the members of the board of directors, or the board itself receive any communication from the Secretary of War directing the repurchase of those bonds?

Mr. DRAKE. Yes, sir; I personally received directions from the Secretary of War to repurchase the bonds.

Senator TALIAFERRO. Do your minutes show that?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. Why not, Mr. Drake?

Mr. DRAKE. Because I believe the instructions to repurchase them were given to Mr. Shonts; they were communicated to him first.

Senator MORGAN. Were the instructions to repurchase given prior to the repurchase?

Mr. DRAKE. Oh, yes, sir.

Senator TALIAFERRO. Did not those instructions have something to do with the repurchase of the bonds?

Mr. DRAKE. Yes, sir; undoubtedly.

Senator TALIAFERRO. Why do you set up the other reason, then?

Mr. DRAKE. These are the reasons stated by the president.

Senator MORGAN. What president do you mean?

Mr. DRAKE. Mr. Shonts.

Senator TALIAFERRO. What I want to know, Mr. Drake, is this: Were those bonds repurchased and restored to the treasury of the company because of the order of the Secretary of War, or was it because you had no further use for the money arising from the sale of the bonds, as your minutes set up?

Mr. DRAKE. Oh, we needed the money; we needed the money, but we procured it through the payment by the Commission of its indebtedness, and because I had received instructions from Mr. Shonts, which had been communicated to him, I understand, from the Secretary of War, to repurchase the bonds.

Senator TALIAFERRO. Now, which was the reason for the repurchase of the bonds; the instruction of the Secretary of War—

Mr. DRAKE. The repurchase of the bonds was because the Secretary of War believed, and stated, I understand, that the board of directors had no right to increase the funded indebtedness of the railroad.

Senator TALIAFERRO. Exactly.

Mr. DRAKE. Without an act of Congress.

Senator TALIAFERRO. Exactly.

Mr. DRAKE. Because it would be increasing the public debt.

Senator TALIAFERRO. That was the reason of the repurchase of those bonds, the true reason?

Mr. DRAKE. That was the reason, the underlying reason; yes.

Senator TALIAFERRO. Why do not your minutes, when they pretend to set up your reasons for action, set up the real reasons?

Mr. DRAKE. Because I am stating what I believe to be the reason that controlled it. I only know that by hearsay, and this was the reason that was given for the repurchase. This is a true record of the reason and of the authority.

Senator MORGAN. Did that project of selling the bonds originate with the executive committee?

Mr. DRAKE. No, sir; it was by the board. The resolution was adopted at the meeting of the board of directors.

Senator MORGAN. Who offered the resolution?

Mr. DRAKE. It does not recite, sir.

Senator MORGAN. You do not remember?

Mr. DRAKE. It does not recite, and I do not remember; no, sir. It is not customary, and it never has been, to give the names of the movers and seconders.

Senator MORGAN. Yes; I know. How much did that transaction cost the Government?

Mr. DRAKE. The bonds were sold at 105 and accrued interest to the date of the sale. They were bought back at 105 and accrued interest to the date of the repurchase. It cost the difference in interest.

Senator MORGAN. What was the accrued interest to the date of the sale?

Mr. DRAKE. It was from the 1st of October to, I think, some day in November; and the repurchase was later, early in December, and it would be the difference in interest, which would have to be calculated.

Senator MORGAN. You would have to make calculations to arrive at it?

Mr. DRAKE. Yes, sir. I am not much of an accountant.

Senator MORGAN. Why was accrued interest counted on the bonds at the date of the sale?

Mr. DRAKE. Because it is customary; it was a very much better bargain in that way. I was endeavoring to make as good a bargain as I could. Ordinarily, when bonds are sold in the open market, a flat quotation is given that covers all accretions with the bonds. For instance, if a bond is quoted in the——

Senator MORGAN. Did you sell the bonds personally?

Mr. DRAKE. I did, sir; by competition, competition between three of the largest houses in the street, J. P. Morgan & Co., William Reid & Co., and McKean & Co.

Senator MORGAN. Was there any arrangement made by which the bonds were to be redelivered in the event that the company wanted them back?

Mr. DRAKE. No, sir.

Senator MORGAN. It was a square and fair sale?

Mr. DRAKE. Absolutely, sir; but then the company, by the terms of the mortgage, may call in the bonds on any interest date at 105.

Senator MORGAN. Yes.

Mr. DRAKE. Or it may redeem the whole issue at 105 on any interest date.

Senator TALIAFERRO. When the chairman of the board, the president of the company, made that report, you were satisfied, Mr. Drake, that the underlying reason for the repurchase of those bonds was the order of the Secretary of War?

Mr. DRAKE. I am, sir.

Senator TALIAFERRO. Did it occur to you as unusual that you should set up in your minutes one reason when you knew that the real reason was not expressed?

Mr. DRAKE. Our minutes record what transpires at a meeting, Mr. Taliaferro.

Senator TALIAFERRO. It did not occur to you, then, that the real reason was not being given for the repurchase of the bonds?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. Will you turn to the minutes of your meeting of November 8?

Mr. DRAKE. Yes, sir. (Turning to page referred to.)

Senator TALIAFERRO. In a letter to Mr. Shonts, under date of December 19, 1905, the Secretary of War says, in part, quoting from his letter:

"I beg to call your attention to one thing in the record thus shown:

On page 2 of the minutes of the meeting of the board of directors of November 8 it is said:

“That after considering all the aspects of the case with Mr. Markel, the latter had agreed to the cancellation of the contract previous to it becoming effective and without any obligation on the part of the company to reimburse him either for his services or his actual expenses, which latter amounted to \$5,745.97.”

Where does that quotation appear in your minutes of that date?

Mr. DRAKE. It does not appear, sir, and there is no reason why it should.

Senator TALIAFERRO. How did the Secretary of War happen to get hold of that if it was not a part of your minutes?

Mr. DRAKE. I will try to explain it to you. The minutes of the meeting were taken down by the first assistant secretary, who acts as the secretary of the meeting. I am a director of the board, and as secretary I sit back and take part in the proceedings of the meeting. He is delegated because he is a stenographer and can take the work down—take down the minutes of the meeting. He takes down some notes. He is in and out of the board, and goes on, hears what is going on, and makes his notes, and thereafter draws up a draft of his understanding of what transpired at the meeting. That draft had been prepared of the meeting of November 8. It was in his files to be revised. Before it had been revised or submitted to a subsequent meeting of the board for approval a copy of it was called for by the Isthmian Canal Commission, and it was sent to the Isthmian Canal Commission. That was because there were several other things done at the meeting.

Senator TALIAFERRO. Just there, Mr. Drake—who sent that copy?

Mr. DRAKE. Mr. Rossbottom, the first assistant secretary.

Senator TALIAFERRO. Was the call made on him for the copy?

Mr. DRAKE. It was, sir.

Senator TALIAFERRO. You may proceed now.

Mr. DRAKE. And it was an unapproved draft. It should not have gone out of the office. It was erroneous in every way. It had not been passed on by anybody, but it was just the draft made by the first assistant secretary, and was sent to the office of the Commission here and was forwarded, I understand, to the Secretary of War; I understand since that it was forwarded to the Secretary of War as a true copy of the minutes of that meeting. As a matter of fact, it was absolutely incorrect; it did not recite what had occurred and would not have been approved by the board, and was not approved by the board at its next meeting. The actual minutes of what was actually done and what was actually said are now recorded, and are correct. That draft should never have seen the light of day outside of the office, because it was not correct and had not been revised.

Senator TALIAFERRO. Is the young man still in the service of the company?

Mr. DRAKE. Oh, yes, sir; yes, sir; he was over here.

Senator TALIAFERRO. Do you regard him a proper man to continue in the employment of the company?

Mr. DRAKE. Yes, sir; I do, sir; I think he is one of the most efficient men. He has been with the company as long as I have. I think he is generally regarded as a very, very efficient man.

Senator TALIAFERRO. How do you account, then, for his sitting at a meeting and preparing minutes that set up things that never occurred?

Mr. DRAKE. It was an error. We are all liable to error, and it was a mistake on his part, a misunderstanding, because he was not at the meeting continuously and he relied upon the correction to be made later.

Senator TALIAFERRO. If it never occurred, then, it must have been a creation of his, Mr. Drake.

Mr. DRAKE. The error is one of omission; he did not state in that draft all that transpired.

Senator TALIAFERRO. Point out to me anything in the minutes that is stated here in this draft that was sent to the Secretary of War that I have just read to you. In other words, if this is not an absolute creation of the man who acted as secretary of that meeting, point out to me—

Mr. DRAKE. There is no doubt in the world, Senator Taliaferro, but what that was what he wrote of what he thought had transpired. There is no doubt in the world of that; but it did not record what had transpired, except, perhaps, in part.

Senator TALIAFERRO. Well, did it record what did not transpire?

Mr. DRAKE. What occurred is what is recorded here [indicating minute book].

Senator TALIAFERRO. Did it not record what did not transpire?

Mr. DRAKE. Well, it did not record at all. It was a minute; it was a story, a report that he wrote of his understanding of what transpired.

Senator TALIAFERRO. I am speaking of his record.

Mr. DRAKE. Yes, sir; have you a copy of what he wrote? It was not preserved.

Senator TALIAFERRO. I have read it to you.

Mr. DRAKE. I thought you read what the Secretary of War had written.

Senator TALIAFERRO. I have read the Secretary's quotation.

Senator SIMMONS. Let me ask you a question. You said he was a stenographer. Did he take that down contemporaneously with the occurrence?

Mr. DRAKE. No, sir.

Senator SIMMONS. Or did he take it down after he went out of the meeting, at some subsequent time?

Mr. DRAKE. He wrote it after he had gone out of the meeting. For instance, let us say that this is a meeting of the board. He takes down, not as this gentleman [indicating the committee stenographer] is taking down, not consecutively, but he takes down the action, and then he writes out a description.

Senator SIMMONS. Do you mean that he made notes of the action and then wrote them out afterwards?

Mr. DRAKE. Partly. Then he goes to his desk and sits down and writes what he understands took place at the meeting, and that draft is submitted to the board at a subsequent meeting, and if it is correct it follows the usual course of the minutes; if his statement is correct it is approved; if it is not correct it is not approved; it is rejected and he is obliged to rewrite the minutes.

Senator HOPKINS. Well, Mr. Drake, if that man is a shorthand

reporter, and if he is an efficient man, as you claim him to be, how is it possible for him to get an erroneous statement of what takes place?

Mr. DRAKE. Because he was not continuously at the meeting, sir; and because he wrote what his impression was. He did not take—I do not want the committee to understand that he took consecutive notes, such as are being taken here.

Senator HOPKINS. But what do you have a secretary in there for, if it is not to take down what occurs? You say you have a stenographer there for the purpose of having accurate information——

Mr. DRAKE. No; I say he is a stenographer, and he does take notes.

Senator HOPKINS. Well, you have him take down in shorthand, at each meeting, what takes place?

Mr. DRAKE. The action that is had at the meeting.

Senator HOPKINS. Yes; and that is written out?

Mr. DRAKE. Yes, sir.

Senator HOPKINS. Now, if that is his business at your meetings, what would occasion his getting up and absenting himself when you are conducting your business there?

Mr. DRAKE. Because he is sent out for books and for papers: he is the messenger of the board. He is in and out of the room all the time, and he did not—it is perfectly plain that he did not—take notes of this action, and that he did make an erroneous record of it, and that it was corrected at the very first opportunity. The Commission has since this incident adopted the system of marking its similar drafts, printing at the head of them "Unapproved draft;" and for that very reason I have not brought to this committee to-day the unapproved draft of the minutes of April 2, because there might be just such errors in them.

Senator HOPKINS. I can not understand, under your own statement, how you can get an erroneous statement there if you have an efficient man there, as you claim him to be, and he is a good stenographer and transcribes everything that takes place.

Mr. DRAKE. He does not; I have repeatedly stated, sir, that he did not. He does not take, he never has taken, a stenographic report of the language. He makes notations of what occurs. He is the one who reads all the communications——

Senator HOPKINS. How much time intervenes from one meeting to another?

Mr. DRAKE. The meetings now are quarterly, unless special meetings are called.

Senator HOPKINS. Then the members of the board have no memoranda, and they just depend on their loose memory as to whether the report is correct or not? Is that it?

Mr. DRAKE. That is just—there was an interval of that kind, and it was during that interval that the unapproved draft got out.

Senator HOPKINS. Then the members of the board, according to your statement, do not know whether they are made a correct report or not, do they?

Mr. DRAKE. Not in the way you present it, but that is not the fact.

Senator HOPKINS. That is the way you conduct your business, is it not?

Mr. DRAKE. No, sir; not at all. Our business is conducted very carefully indeed—very carefully indeed. We never have had anything

like this before, and the young man can speak for himself. He can be called before the committee and can explain it. I can not explain another man's action, except that he did——

Senator HOPKINS. Well, I know; but here you say that a man who was a shorthand reporter, and taking these notes, just stepping in and out, has made an egregious blunder.

Mr. DRAKE. And it was corrected at the very first opportunity.

Senator HOPKINS. You say he put down things that did not occur. Now, take your regular reports—if you gentlemen who sit around the directors' board there make no minute of what takes place, how can you remember every detail three months hence when you come to approve the report?

Mr. DRAKE. This was a very important action, and it evidences how we can do it, because all of them knew right away the moment it was called to the attention of the different members of the committee. The moment it was called to Mr. Shonts's attention by the Secretary of War he said, "That is wrong." He told him so immediately. The moment it was called to my attention I said, "That is wrong." The moment it was called to Colonel Edwards's attention he said it was absolutely wrong. The moment it was called to Mr. Cromwell's attention he said it was wrong. So it shows we were all competent to correct it, and that it was corrected.

Senator TALIAFERRO. You state to the committee, Mr. Drake, that this man has been appointed first assistant secretary——

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO (continuing). Of this company because he is a stenographer?

Mr. DRAKE. No, sir; I did not say that. I said he acted as secretary of the committee because he was a stenographer.

Senator TALIAFERRO. The difference is between acting and appointing, then? Your correction is that he was not appointed first assistant secretary because he was a stenographer, but that he acted as first assistant secretary because he was a stenographer?

Mr. DRAKE. He was elected first assistant secretary, and he acts as secretary of the board because he is a stenographer.

Senator TALIAFERRO. And you say he is a reliable man and a competent man?

Mr. DRAKE. Yes, sir; undoubtedly.

Senator TALIAFERRO. And you admit that he has written down as a record of one of your meetings something that did not occur at the meeting?

Mr. DRAKE. I admit that he made an erroneous report or draft of what occurred at the meeting.

Senator TALIAFERRO. This quotation that the Secretary gives in his letter to Mr. Shonts did not occur at your meeting—the language?

Mr. DRAKE. You gave me that once to read, sir, and I did not read it.

Senator TALIAFERRO. I handed it to you; I presumed you read it.

Mr. DRAKE. I did not have an opportunity to read it.

(Mr. Drake was then handed the document in which the quotation occurred and read it.)

Mr. DRAKE (after reading the quotation). That statement is absolutely untrue. What Mr. Shonts said was that there was no obligation under the contract to compensate him, but that there was a claim, and he had in his hand at the time a statement of the claim that Mr.

Markel made for services rendered. In that sense it was an error of omission, and it is not correct in any way. What Mr. Shonts stated was that there was no obligation under the contract to reimburse him.

Senator TALIAFERRO. Very well.

Mr. DRAKE. But Mr. Shonts at the same time stated that the man had a claim, that he had the details of it here, and he brought it up before the board for consideration, and the board acted on that claim.

Senator TALIAFERRO. Now, will you show me in your minutes, or will you read from your minutes, where Mr. Shonts stated that there was no obligation?

Mr. DRAKE (after examining minute book). No; I do not find that. This minute is a summary of the action of the board. It does not report all of the conversation or all of the statement that was made. It says that the President—if you will allow me to read—

Senator TALIAFERRO. No; you need not read it. If you desire to read it I have no objection, except that it is unnecessarily encumbering the record. However, I do not know that it is in the record; read it if you wish.

Mr. DRAKE. (Reading:) "The President further reported that Mr. Markel had at the request originally of Vice President and General Manager Wallace and subsequently of other officers of the company rendered the services mentioned in the bill; that the company had received the benefit of such expert advice and services and had used and availed of the same in its plans and preparations for erecting a permanent plant for refrigeration; for hotels for housing and feeding employees; and for the establishment of labor camps, plants, etc., for the care of employees; and that he considered the same of value to the company of upwards of \$10,000.00.

"On motion it was unanimously

"*Resolved*, That in the judgment of the board the sum of \$10,745.97 is the fair and reasonable value of the services embraced in the account rendered by Mr. J. E. Markel and the same is audited and allowed at said sum."

Senator TALIAFERRO. Now, Mr. Drake, you remember that in his report to the board Mr. Shonts stated that there was no obligation under the contract to pay this money. Why do the minutes not set that up?

Mr. DRAKE. Because the minutes are not an exact report of all that Mr. Shonts said. They do not purport to be. They purport to be a report of the action of the board. This is a very voluminous minute here. I think that the entire minute should be read as bearing on the point.

The CHAIRMAN. How long is it?

Mr. DRAKE. It is quite a lengthy minute, sir.

Senator SIMMONS. You mean that if a member gets up and makes a statement of a matter before the committee, and then there is action following that statement, and probably as the result of that statement, the action is taken down in the minutes?

Mr. DRAKE. Yes, sir.

Senator SIMMONS. But the statement which led up to it, and the reasons that were assigned in the statement, are not incorporated in the minutes?

Mr. DRAKE. That is right, sir. It would be summarily stated by the stenographer; that is all.

Senator TALIAFERRO. The Senator does not understand this case exactly as it exists. The minutes undertake——

Senator SIMMONS. No; I was just trying to find out if what I understood him to mean was correct.

Senator TALIAFERRO. Yes; I just wanted you to understand.

Mr. DRAKE. That is my meaning, sir; you have gathered it.

Senator TALIAFERRO. The minutes undertake to state the report of Mr. Shonts as to this Markel contract, and they then set up the action of the board on that report. The secretary of the board, or the assistant secretary, who kept the minutes, sent an unapproved copy of the minutes to the Secretary of War——

Mr. DRAKE. There is a little discrepancy there, sir. He sent it to the Commission, and it was by the Commission sent to the Secretary of War.

Senator TALIAFERRO. Well, it came into the hands of the Secretary of War. The Secretary of War reports to the board that under the language of the resolution the railroad company would not be justified in paying this ten thousand seven hundred and some dollars to Mr. Markel——

Mr. DRAKE. May I correct you once, sir?

Senator TALIAFERRO. If I am in error you may correct me.

Mr. DRAKE. You say the secretary reported to the board. We had no communication from the secretary.

Senator TALIAFERRO. To the president of the company, then?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. To Mr. Shonts; we have the record here. It then develops——

Senator SIMMONS. I will state to the Senator that I have read Markel's testimony before the Secretary of War about this.

Senator TALIAFERRO. It then develops that the secretary, who is a stenographer and a very efficient and reliable man, as described by this witness, had permitted an uncertified or an unauthorized copy of the minutes which he kept to come over here, in which he had written something that never occurred at that meeting; and yet this witness insists that he is a stenographer and a competent and reliable official.

Senator SIMMONS. I was not in the room when that testimony was given; I just stepped out for a moment.

Mr. DRAKE. When the draft was called for he had no discretion; he had to send it. He received a call from the President for a copy of his draft of the action, or, rather, from the office of the Commission. I presume it was for the Secretary of War.

Senator HOPKINS. Within a year how many of these reports have you been compelled to reject because of their inaccuracies?

Mr. DRAKE. The minutes are never copied into this book until they have been read at the succeeding meeting and all necessary and proper corrections made in them. I have not any record of that, sir; I could not answer.

Senator HOPKINS. The reason I asked the question I did was that I understood you a little while ago to say that you now had a book where you recorded these unapproved reports of the secretary.

Mr. DRAKE. No; they are not entered in a book, sir. They are kept in loose drafts until they are approved, and then they are copied into these books by a machine, and the draft of the minutes of April 2 is now in the safe of the company, as drawn up by this Mr. Rossbottom,

and will be submitted to the next meeting of the board and approved if right, amended if wrong, and then, being approved, will be entered in this book.

Senator HOPKINS. My question, then, was predicated on a misapprehension of your testimony. I understood you to say that you had a book or some loose sheets that you kept of the rejected reports.

Mr. DRAKE. No, no, sir.

Senator TALIAFERRO. You did testify that you kept loose sheets of the unauthorized reports—that is, the reports before they were acted upon?

Mr. DRAKE. Yes, sir; we have those.

Senator TALIAFERRO. Do you mark them "Uncertified," or what?

Mr. DRAKE. Yes, sir—"Unapproved draft," now, after this experience.

Senator HOPKINS. Well, you keep those loose sheets, do you not?

Mr. DRAKE. We have them now; yes, sir.

Senator HOPKINS (continuing). On record, so that anybody can take the record as it is amended and compare it with that, and see what difference there is?

Mr. DRAKE. I do not think so, sir.

Senator HOPKINS. You do not think you keep those sheets?

Mr. DRAKE. No, sir. I think when they are approved and copied into the minutes they are destroyed.

Senator HOPKINS. You destroy the original paper that is kept by the secretary?

Mr. DRAKE. Very probably.

Senator HOPKINS. What is that?

Mr. DRAKE. Very possibly. I am not speaking of the fact. He may have them all—he may have the original copy. I do not know that he has. There is a copy of the first draft, necessarily, in the hands of the Isthmian Canal Commission here—the copy that was sent on here.

Senator HOPKINS. Now, take this draft that is in controversy here. Has that been destroyed since the record has been amended and approved?

Mr. DRAKE. I have not any doubt that it has, sir. It would be natural. It was wrong.

Senator TALIAFERRO. Do you think the copy that was sent to the Commission and by the Commission sent to the Secretary of War was probably destroyed?

Mr. DRAKE. No, sir; I do not. I think that that has entered into the record, and is probably preserved.

Senator TALIAFERRO. Perhaps the committee can get hold of that. This is a mere extract from it.

Mr. DRAKE. Undoubtedly, sir.

Senator TALIAFERRO. You stated, Mr. Drake, that just as soon as Mr. Shonts saw this unapproved draft he at once announced that it was wrong.

Mr. DRAKE. I know that by hearsay only. I was not present. I do not know of it. I have heard so.

Senator TALIAFERRO. I want to state for your information, as a matter of fact, that no such thing occurred, as I will show you by Mr. Shonts's letter here in reply to the Secretary of War. I will read it.

It is in the record; and I will just read, for your benefit, the concluding paragraph:

"The minutes of the meeting of the board of directors of the railroad dealing with this matter were subsequently prepared by the general counsel, Mr. William Nelson Cromwell, and possibly because he did not have in mind all of the facts and conditions leading up to the granting and cancellation of this concession, the minutes of the railroad, in their present form, do not fairly and accurately present the facts. A motion for their amendment in accordance with the real facts, as set forth in this communication, will therefore be moved and undoubtedly adopted at the next meeting of the board."

Mr. DRAKE. When Mr. Shonts wrote that letter, sir, it was in the full belief that this was a bona fide copy of the minutes that had been approved.

Senator TALIAFERRO. That is what I wanted to impress on you.

Mr. DRAKE. He did not know that the Secretary had in his hands an unapproved draft.

Senator TALIAFERRO. So he did not exclaim, the moment he saw it, that that was wrong?

Mr. DRAKE. That was a figure of speech. Mr. Shonts was not advised until later that it had been forwarded to his office. The letter that inclosed it to his office stated—that can be easily obtained by the committee—that it was an unapproved draft. It should have been sent forward by the office of the Commission to the Secretary of War as an unapproved draft. It was not. That was the error; and Mr. Shonts was not aware of it when he wrote that letter.

Senator TALIAFERRO. Exactly. That is what I wanted to call your attention to.

Mr. DRAKE. My testimony is wrong to that extent, sir. I am much obliged to you for correcting it. I have not had an opportunity, gentlemen, to read all of the testimony that has been taken before this committee. There is no moment of my time that is not occupied, sometimes from 8 or 9 o'clock in the morning until 10 or 11 o'clock at night, day in and day out; and while I had it all, while I have every page of it, I have not had time to read every page of it.

Senator TALIAFERRO. Mr. Drake, I do not want to appear overparticular about these little questions; but when the secretary and treasurer of the company and the assistant to the president and vice-president of the company certifies under oath to the efficiency and the accuracy of a clerk who has made such a blunder as that, I can not help inquiring into it. That man has either taken down what occurred at that meeting or he has deliberately manufactured something that did not occur at that meeting.

Mr. DRAKE. He is not capable of doing that, sir. He is a man of unblemished reputation. He is a man that would impress the committee so. He is a man that is liable to err, as anybody else might be, in the press of work. He has undoubtedly made a mistake there, and he will frankly tell you so; and I think you should call him before the committee. If you will excuse me for making the suggestion, I want to say that in justice to him, because I would not have the committee think that of a man who has served the company as faithfully as he has from a boy to manhood, and who is regarded as highly as he

is by everybody. I say this at the risk of affecting the statement that I have made. I would not have him go down on the record now as impeached in this way without the committee having an opportunity to judge of the credibility of the witness.

Senator TALIAFERRO. If you will read the testimony, Mr. Drake, you will find that I have from the beginning believed that that young man kept a correct account of what occurred in the meeting.

Mr. DRAKE. Well, he will tell you himself that he did not; and when he tells you, you will believe him.

Senator TALIAFERRO. He would not add to his efficiency if he should come here and tell me that he had written into those minutes something that did not occur at the meeting.

Mr. DRAKE. No, sir; but your meeting him and interrogating him would convince you that he is an absolutely upright and truthful man, and to that extent it would be an advantage to him and to the committee.

Senator TALIAFERRO. I have believed that of him, and I have believed that when the Secretary of War called the attention of the board to the fact that under the resolution as it was adopted by the board that money could not be legally paid to Mr. Markel, the board then conformed their resolution to the views of the Secretary of War.

Mr. DRAKE. That is not the case, sir.

Senator MORGAN. Mr. Drake, what is the fiscal year of the railroad company?

Mr. DRAKE. It has recently been changed by resolution from June 30 to June 30. It has been changed to conform to the fiscal year of the Government Departments generally.

Senator MORGAN. You say from June to June?

Mr. DRAKE. From July 1 to July 1.

Senator MORGAN. From July 1 to July 1?

Mr. DRAKE. Yes, sir; to terminate June 30. Heretofore it has always been the calendar year.

Senator MORGAN. It is at the end of the fiscal year that the company has declared its dividends when they have been declared?

Mr. DRAKE. The dividends have never been made at any regular time, sir.

Senator MORGAN. You declare dividends for the year terminating with the end of the fiscal year, July 1?

Mr. DRAKE. No, sir; that is only recent action. I thought you asked that. I answered your question categorically. The fiscal year of the company now, as soon as the minutes of April 2 are approved, will be from June 30 to July 1 of the following year. Heretofore the fiscal year has been the calendar year ending on December 31. The official year has been from April to April, because the by-laws provide that the annual election shall be held in April.

Senator MORGAN. It was either on or after December 31 that you made declarations of dividends?

Mr. DRAKE. Not necessarily, sir. We declared them at any time; there was no regular time.

Senator MORGAN. But did you do so? I want to know what you have done.

Mr. DRAKE. We have declared dividends on different dates during the year, sir.

Senator MORGAN. But for the previous year; not the current year?

Mr. DRAKE. I only recall one or two instances in which dividends were declared out of any given period.

Senator MORGAN. What instances were those?

Mr. DRAKE. There was one, I think, in 1902, where a dividend was declared out of the earnings of 1902. There was one in May, 1904, when a dividend was declared out of earnings prior to April 1.

Senator MORGAN. May, 1904?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That is the month in which we took over the canal property?

Mr. DRAKE. Yes, sir. We took it over on May 7, or May 18, as far as our record shows.

Senator MORGAN. In your former examination, which took place on February 26, 1902, you gave a list of the net earnings of this company, commencing in 1852 and running down to 1901?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Have you any statement of the net earnings since 1901?

Mr. DRAKE. I was asked to be ready to report on the financial condition of the road, and I have a number of other reports here that I expected to submit; but in connection with that I have prepared a similar statement to that. I want to say that my reason for doing it without any other intimation was because that was the scope of the investigation before the committee then, and I presumed that it would follow the same course now.

Senator MORGAN. Oh, that is all right. There is no excuse needed for making your preparations. I am glad you did.

Mr. DRAKE. I have before me a statement of the net earnings and dividends of the company from January 1, 1896, to March 31, 1904.

Senator MORGAN. Just read it, please.

Mr. DRAKE. Yes, sir. That report of 1895 showed net accumulated earnings and income account of \$1,644,145.47. Taking in a period of eight or ten years, starting from a fixed point on January 31, 1896, as shown by the report, the accumulated earnings were \$1,644,145.47.

During the year 1896 the increment, the increase of the sinking fund from interest on investments, was \$28,049.69. The net earnings of the year—that is, after paying the land rent of \$5,000 a mile, or \$250,000, to the Republic of Colombia, and after the payment of all operating expenses and other fixed charges—the net earnings of the year were \$545,684.53. That amount was carried to surplus on December 31, 1896, increasing the surplus from \$1,644,145.47 to \$2,217,879.69.

At this time I may say, gentlemen, that there was a necessity for conservatism on the part of the board. We were engaged in a freight competition. We were engaged in the construction of the La Boca terminal. The La Boca terminal was a tremendous affair. It cost something over \$2,132,000, I think it was, and we had expected to have to pay for that. We were endeavoring to abandon the practice of lightering cargo in Panama Bay, and the general plan of the board was that it would cost us a million of dollars. Plans were prepared abroad and sent to us to execute. As a result—it is a very massive construction; there are 22 concrete caissons that are 15 feet—

Senator MORGAN. Why are you going into all those descriptions and making such a statement?

Mr. DRAKE. Simply as the reason why we conserved our estimates.

Senator MORGAN. Well, you need not explain everything you can think about. Just answer the questions.

Mr. DRAKE. All right, sir.

The increase of the sinking fund in 1897 from interest on investments was \$114,871.84. The net earnings of that year were \$409,873.37. That, again, was after paying the subvention and paying fixed charges. The total surplus to December 31 was \$2,742,624.90.

Again, the net earnings for the year 1898 were \$266,746.73, increasing the surplus December 31, 1898, to \$3,009,371.63.

The net earnings for 1899 were \$295,231.77. That, again, was after paying all operating expenses—the net earnings. The total surplus December 31, 1899, was \$3,304,603.40.

The net earnings for the year 1900 were \$446,764.68. The total surplus December 31 was \$3,751,368.08.

The net earnings for the year 1901 were \$259,590.12. The total surplus to December 31, 1901, was \$4,010,958.20. Then it was that we began paying dividends. We resumed our previous practice. I think it is only fair, Senator, that I should be allowed to say, if you will permit me, that the railroad company during its corporate existence has paid \$33,000,000 in dividends, nearly 5 per cent on the original investment. It has always been a prosperous, successful corporation, and has never failed on an obligation of any kind.

The CHAIRMAN. You wish to state that, I suppose, simply to show that the Government has a good property there?

Mr. DRAKE. I do not, sir; I want to state that we had suspended paying dividends, and we had simply resumed the practice of paying dividends here after we had gotten through a trying period.

The CHAIRMAN. All right. Proceed, Mr. Drake.

Mr. DRAKE. During 1901 we paid a dividend of \$140,000. That was deducted from the surplus and the surplus carried over.

Senator TALIAFERRO. What percentage was that on the stock?

Mr. DRAKE. Two per cent. The capital stock is \$7,000,000.

The net surplus December 31, 1901, was \$3,870,958.20.

The net earnings for the year 1902 were \$295,384.40. That gave a surplus December 31, 1902, of \$4,166,342.60, less the dividends paid, \$280,000. There was a dividend of 4 per cent paid during that year. The net surplus December 31, 1902, was, thus, \$3,846,342.60.

The net earnings for the year 1903 were \$401,068.30. The total surplus December 31, 1903, was \$4,287,410.90; less dividends paid, \$560,000. Dividends of 8 per cent were paid in that year, and some years in its history the road has paid as high as 22 per cent.

The net surplus December 31, 1903, was, thus, \$3,727,410.90. The net earnings for the first quarter—this is taking in only the first quarter of 1904, the year that the property was turned over to the Government—the net earnings for the first quarter of the year 1904 were \$176,249.59. Thus the total surplus on the 1st of April was \$3,903,660.49, less dividends paid, \$175,000—dividends of 2½ per cent—that left the net surplus on March 31, 1904, \$3,728,660.49.

In addition to this, out of that surplus there was \$882,915 in hand of cash assets.

Now, perhaps you would like to know what has become of that surplus. If we had paid no dividends the net earnings of the company would have been \$4,883,660.49 up to March 31, 1904. This statement that I have here makes a statement of what disposition has been made of those net earnings.

The CHAIRMAN. Can you not insert that in the record without going over it?

Mr. DRAKE. I would like to impress the committee with it, sir.

The CHAIRMAN. Very well.

Mr. DRAKE. I hate to take up the time, but I will read it as rapidly as possible.

Senator MORGAN. You need not bother about taking up time. We are trying to get at the facts.

Mr. DRAKE. Yes, sir. These are facts that I think ought to be in the record.

This is a statement showing the disposition of the accumulated earnings of \$4,883,660.49 up to March 31, 1904, which includes a statement of the net current assets in hand on that date.

The amount of accumulated earnings and income account applied in October, 1897, for redemption of 7 per cent sterling bonds was \$1,398,088.34. To that extent we reduced the lien on the property out of our earnings, because when the sterling bonds were redeemed, instead of issuing a five million dollar mortgage, as it existed prior to that, we issued only a \$4,000,000 mortgage, and retained two millions of it in the treasury.

Capital expenditures for La Boca terminal, etc., paid out of earnings in addition to amounts paid with proceeds of 1,087 first-mortgage bonds, \$1,349,263.22. We sold 1,087 bonds to pay the canal company who were constructing the pier for us as contractors, and then we had to expend out of our earnings \$1,349,263.22 to complete it on the original plan.

Senator TALIAFERRO. So that the pier cost how much?

Mr. DRAKE. Two million one hundred and twenty-two thousand dollars, I think it was, sir. That was chiefly because of the extensive dredging that had to be done there. The tide rises and falls 20 feet, and we had to make berths alongside of the pier for ships, and we had to excavate very large basins there. They are a thousand feet across, and peculiar in shape—pear-shaped. Now we have all of these heavy ships coming down there loaded with lumber, and so on, for the canal, and they are able to berth alongside of the pier. All our connecting carriers berth their ships there; and while it never was constructed to bear the heavy floor loads that are being put upon it now, still it is being tested to its full capacity, and is serviceable.

The company bought and holds 22 of its first mortgage bonds. It bought them in the open market and holds them now, making the liquid assets \$23,037.50.

Dividends paid in 1901, 1902, 1903, 1904, \$1,155,000.

The current assets on March 31, 1904, were as follows:

Senator TALIAFERRO. I beg your pardon, Mr. Drake; I thought you had deducted those dividends.

Mr. DRAKE. We did here; I did in this statement, sir. [Referring to first statement.]

Senator TALIAFERRO. Does this statement show what your earnings would have been without the dividends?

Mr. DRAKE. If we had not declared dividends and what disposition we made of them. I therefore mention that we disbursed so much of them in dividends.

In addition to making those payments, the company had on March 31, 1904, cash in banks and trust companies amounting to \$558,575.59. I want to say that in my whole connection with the railroad—as I stated once before—the cash in banks has always been from \$500,000 to \$1,000,000, until the Commission recently took the road over. The new Commission took hold of us in April, 1905; and as Judge Magoon says, comically, they took possession at noon and in fifteen minutes they had bankrupted the road. That was done by placing large orders for equipment and contracts for enlarging the road to meet the necessities of canal construction.

Coal and supplies on hand, \$193,886.20.

Due from connecting lines, \$210,435.09.

Due from the United States Government, \$27,687.94.

Due from companies and individuals, \$121,644.67.

Accrued interest on deposits—our surplus is always deposited in the trust companies—\$3,653.64.

Accrued interest on securities held in the fund, \$4,320.

Miscellaneous accounts, \$22,596.20.

Prepaid insurance and charter of steamers, \$13,688.70.

One hundred and fifty-three subsidy bonds in treasury purchased with earnings, \$153,000.

I want to say of those subsidy bonds—I only speak of the 4½ per cent bonds—I have put them up there as something that we have bought and hold. These are not an obligation; they are not a mortgage; they are in anticipation of a lien. They are in anticipation of the subsidy due the Republic of Colombia for the privilege of using the land across the Isthmus. That is \$250,000 a year, and we hold those bonds. They are in anticipation of a lien, and not a mortgage.

The current liabilities of the company foot up only \$426,572.69.

Isthmus drafts not presented—our employees are paid down on the Isthmus by drafts, and they do not always present them—\$13,808.75.

Coupons not presented, \$962.50.

Unclaimed dividends, \$129.

Unpaid wages, \$2,162.28.

Audited vouchers, \$88,216.43.

Accrued for redemption of bonds and payment of interest, \$292,106.78.

We set aside in each month the proportion of the earnings of that month that will be applicable to the redemption of bonds we have to redeem. We apply \$150,000 on the 1st of August of each year to the redemption of a certain number of the 4½ per cent bonds, and the same way with the 6's.

Interest on anticipated payments to canal company, \$26,061.95.

Due the Republic of Panama, \$3,125. That was the proportion which would have been due them during the first three months upon that \$25,000 a year that we had to pay them, that we now pay to the United States Government as the assignee of the financial rights of the Republic of Panama under the articles of concession.

In addition to this the company has, since the issue of the first mortgage bonds in 1897, redeemed and canceled of said issue, out of its gross earnings, \$841,000 of the first mortgage bonds. So that the sur-

plus we had on hand on March 31 was \$882,915.34 of liquidated assets, and besides that, and in addition to that, we had increased our surplus from \$1,644,145.47 on January 1, 1896, to \$3,728,660, and at the same time had reduced our bonded debt \$841,000.

I submit this statement as an evidence of the condition of the property at the time it was turned over.

Senator MORGAN. Your statement is a splendid display of book-keeping and accounting, and I want now to get at some of the facts that a common man can understand.

Mr. DRAKE. Yes, sir.

Senator MORGAN. This surplus that you mention year after year there, was that in cash?

Mr. DRAKE. It is in the property; yes, sir. It is cash expended in the property, as shown there.

Senator MORGAN. Cash?

Mr. DRAKE. Not cash in bank. It is surplus that was earned and expended in the way that I have just stated; put into the property.

Senator MORGAN. It was put into the property?

Mr. DRAKE. Yes, sir.

Senator MORGAN. The property was there to show for it.

Mr. DRAKE. Yes, sir.

Senator MORGAN. And there is nothing else there to show for it?

Mr. DRAKE. That is all, sir.

Senator MORGAN. It does not mean money that you held over?

Mr. DRAKE. It means earnings expended on the improvement of the property, on which improvements money could be raised, if it was necessary.

Senator MORGAN. I am not talking about the borrowing capacity.

Mr. DRAKE. I am speaking of the increase in the cost. That annual report which is here shows the increase in the cost of the property.

Senator MORGAN. In the value of it?

Mr. DRAKE. Yes; in the value of it and in the cost of it, too.

Senator MORGAN. But it is not a fund that you could distribute on dividends among your stockholders?

Mr. DRAKE. You would have a perfect right to distribute all of it among your stockholders.

Senator MORGAN. All of the surplus?

Mr. DRAKE. Yes, sir. You would have a perfect right to raise money on it in any way. It belongs to the stockholders. It is the earning of their investment, and it is applied to the improvement of the property.

Senator MORGAN. How would you go about distributing it among the stockholders except by increasing their stock?

Mr. DRAKE. You would have to do something like that. Instead of doing that it was elected to improve the property.

Senator MORGAN. Well, you are talking about imaginary things and I am talking about real things. You are talking about what you might do and I am talking about what you did do. I want to get at that.

Mr. DRAKE. I am speaking of the system of accounting that is adopted by all corporations and all railroads.

Senator MORGAN. Yes. The stockholders are that much richer in consequence of the surplus?

Mr. DRAKE. In consequence of the application of the earnings, which might have been distributed in dividends, to the improvement of the property.

Senator MORGAN. Very good. You saved their money for them and put it into the property. That was all?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And their stock represented that property with the surplus added to it?

Mr. DRAKE. Yes, sir; that belonged to the stockholders at that time.

Senator MORGAN. It all belonged to them at every time.

Mr. DRAKE. Yes, sir.

Senator MORGAN. But the stock was increased in intrinsic value, whether it was increased in market value or not, by the application of these different amounts of surplus year by year in the way you have stated, by betterments of the canal property, improvements of it in every way?

Mr. DRAKE. Yes, sir. Mr. Senator, may I say that betterments and improvements are properly chargeable to the capital account and to the increased cost of the property?

Senator MORGAN. I am not in any controversy with you about bookkeeping, because you know everything about it, all its ins and outs and ups and downs——

Mr. DRAKE. I beg your pardon, Senator, I do not. I am not an accountant.

Senator MORGAN (continuing). And I do not understand it at all. I want a common-sense view of this situation, if I can get it.

Mr. DRAKE. All right.

Senator MORGAN. The stock that remained at the time this property was turned over to the United States represented the value of all of the property of every kind that was owned by the Panama Railroad Company?

Mr. DRAKE. Yes, sir. It represented the original capital cost of the property with the improvements that had been made with this money.

Senator MORGAN. Very good. And if it had been a profitable investment, of course, stocks were that much increased in value. Where did you keep your bank accounts?

Mr. DRAKE. In different banks. In the Fourth National Bank——

Senator MORGAN. All of them were in New York?

Mr. DRAKE. No, sir.

Senator MORGAN. You kept no bank account in Paris, did you?

Mr. DRAKE. No. We kept a bank account in London. I show by this statement that I would like to put in evidence now the fact that we have funds in the hands of our London bankers.

The CHAIRMAN. Did not that go in this morning?

Mr. DRAKE. No, sir. I read from it, and it should go in. I held it out with your consent, because there was something else that I wanted to speak about.

The CHAIRMAN. Very well. It can go in now.

(The statement referred to will be found appended to the record of to-day's proceedings.)

Senator MORGAN. At the time that this property was turned over to the United States how much money did your railroad company have in banks in London?

Mr. DRAKE. I would have to get the corresponding statement to that in order to answer that question. We had, as I show by that statement, \$882,000 altogether in cash and in hand, but how much of that was in the hands of London banks I could not say; probably not over fifteen thousand dollars or twenty thousand dollars or thirty thousand dollars.

Senator MORGAN. A small amount?

Mr. DRAKE. Yes, sir; because we draw it down all the time.

Senator MORGAN. What became of the amount in the London banks after the property was turned over to the United States?

Mr. DRAKE. It was drawn against and carried into the cash of the company here.

Senator MORGAN. It was drawn against by whom?

Mr. DRAKE. By our bills of exchange.

Senator MORGAN. That property became the property of the United States?

Mr. DRAKE. Yes, sir. It is a part of the liquidated cash of the company and credit account of the company.

Senator MORGAN. And the money in the banks in New York belonged to the United States?

Mr. DRAKE. Yes, sir.

Senator MORGAN (continuing). To the extent of the holdings of the United States?

Mr. DRAKE. Everything went to the United States.

Senator MORGAN. Without exception?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Did the railroad company at the time it was turned over, owe any current debts?

Mr. DRAKE. I have just stated what the current liabilities were.

Senator MORGAN. What were they?

Mr. DRAKE. I have not a copy of it at hand at the moment, but I read from it earlier in my testimony. I showed that the liabilities were \$462,000 and the assets were \$1,300,000, or something like that. I am giving this from memory. It is all in the record.

Senator MORGAN. You had these steamers and they went over to the United States?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Two of them were in the shop for repairs at that time?

Mr. DRAKE. They were.

Senator MORGAN. How much debt had been run up against them?

Mr. DRAKE. At that time—shall I explain that? I think I know what you want.

Senator MORGAN. Yes.

Mr. DRAKE. I would like to explain it. In the fall of 1902 two of our steamers that had been operated for twenty years in our own and other service had outlived their classification—that is, they were not insurable as first-class risks and the cargo they carried was not insurable because they had lived their natural life. They were laid up. They were withdrawn from the service and laid up. We were chartering ships in their place at a charter price that represented 5 per cent on \$4,000,000. That is, we were paying \$16,000 a month charter money for ships. That was considered unbusinesslike and not a proper thing to do. So it was decided, after a great deal of consideration and after

expert examination, that there was a good deal of latent value in our ships as they were; and it was decided to rebuild them.

Senator MORGAN. That was in 1902.

Mr. DRAKE. In 1903. In 1902 they were laid up and in August or September, 1903, it was decided to rebuild them. Plans and estimates were invited, and it was found that to rebuild them would cost—it was expected that it would cost—at least \$150,000 to thoroughly rebuild them. They were reconstructed. They were taken apart down to their frames, and everything about them except their machinery and their plates, their outside skin, was rebuilt.

Senator MORGAN. What time in 1903 did you send them out for repairs?

Mr. DRAKE. In September. We made a contract with Cramp & Co. I have a copy of the contract here. There is a copy of the contract. Will you have it in evidence?

The CHAIRMAN. A copy of the contract for what?

Mr. DRAKE. For the rebuilding of the ships *Defiance* and *Finance*.

Senator MORGAN. For the rebuilding?

Mr. DRAKE. Yes, sir.

Senator MORGAN. What is the date of that?

Mr. DRAKE. Shall I read the contract?

The CHAIRMAN. If you state the facts I should think it would be sufficient.

Mr. DRAKE. The contract is dated the 13th of November, 1903.

Senator TALIAFERRO. Do you want that in the record, Senator?

Senator MORGAN. I do not know that I do. It is possible that I may.

The CHAIRMAN. Let him state the facts about it first, Senator.

Senator MORGAN. Yes.

Mr. DRAKE. I had reached a point where I said it was decided that it was inadvisable to continue chartered ships at a very high rate from other lines, and letting our own steamers lie by and go to pieces; so that it was decided to rebuild them. We had estimates submitted by a number of concerns and finally made a contract with Cramp & Sons to rebuild them. That contract provided that they were to do a certain amount of work under contract, and the balance by day's work. It provided that up to \$200,000 the work that was done on them should be paid for in bonds of the company at 102½ and accrued interest. The balance was to be paid out of earnings, and was so paid out of earnings of the company. It was a capital construction.

The cost of the vessels had originally been a capital account, and as this was a rebuilding of them, and the 4½ per cent bonds were created and issued for the purpose of building wharves, railroad buildings, steamships, and what not that would be for capital account, it was decided that this should be treated to the extent of \$200,000 as capital, especially as only that proportion of the repairs could be properly charged—\$265,000 could be properly charged really to the rebuilding of them. The balance was replacement.

The contract was made with Cramp & Sons; the bonds were paid to them up to the extent of \$200,000. At the time the contract was made it provided that the contractors must hold those bonds until August 2 of the following year, when, if the railroad company failed to take them back, they might retain them. That is, the railroad company reserved an option. We did not want the bonds scattered.

The railroad company reserved an option to take the bonds back at the same price at which they had been sold.

Senator MORGAN. That is, they put them in pledge?

Mr. DRAKE. No, sir; we disbursed the bonds; but we retained an option to take them back.

Senator MORGAN. Is not that putting them in pledge?

Mr. DRAKE. No, sir.

Senator MORGAN. What is the difference?

Mr. DRAKE. It is a distinct transaction. We paid for the cost of the repairs \$370,000. We had paid the \$200,000 in bonds. When the time arrived when we could take them back if we wanted to, we found that we could sell the bonds at 104½, and we did take them back at 102½ and sold them at 104½. The bonds were sold because the repairs were capital repairs, and the policy of the company, the same as in building the *La Boca*, was to pay for the rebuilding of the steamships in bonds or in capital outlay.

The bonds, as I say, were disbursed and taken back and sold at 104½. In connection with the report of that action I want to say that we turned the property over—May 7 was the date of the transfer, I believe—and at that time the Government took control of the property, and all of this action was submitted to the boards, of which the Isthmian Canal Commission constituted a majority. They were present when the reports were made of what action had been had and the report of what action it was proposed to take under the contract, of taking up the bonds at the option price and reselling them at a higher price. That was submitted to the board in which Admiral Walker, Professor Burr, and Mr. Grunsky were present, and other members of the board were members but not in attendance.

Senator MORGAN. What was the date of that meeting?

Mr. DRAKE. I think it was subsequent to August. It was September 8 or 28, 1904, I think.

Senator MORGAN. That was about a year after you put the ships in Cramps' hands for rebuilding?

Mr. DRAKE. The ships were then put in service. They were entirely rebuilt, as I say.

Senator MORGAN. That was about a year after you put them in Cramps' hands for rebuilding?

Mr. DRAKE. Yes, sir.

Senator MORGAN. About a year.

Mr. DRAKE. Yes, sir. They were put in their hands in November, and they were paid for in August. The work done was paid for in August. The work took eight or ten months.

Senator MORGAN. August, 1904?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And it is this meeting at which you say Admiral Walker and Mr. Grunsky and somebody else were present that took place in November?

Mr. DRAKE. No, sir; in September—August or September. I can tell by the executive committee minutes. It was reported, at any rate, to the board regularly subsequent to May 7, 1904.

Senator MORGAN. It was all reported to the board after Admiral Walker and Mr. Grunsky came in?

Mr. DRAKE. Absolutely.

Senator MORGAN. Let us see the minutes of what you did on that occasion.

Mr. DRAKE. That would appear here as "extracts from the executive committee were read as an explicit statement of all action had by the committee and approved and made the action of the board." The minute books that will come over will contain it.

Senator MORGAN. The action of the executive committee had been taken before that meeting that you have referred to there, where Admiral Walker and Mr. Grunsky were present?

Mr. DRAKE. Yes, sir. The action was had the year before, in 1903.

Senator MORGAN. By the executive committee?

Mr. DRAKE. By the board.

Senator MORGAN. Did the executive committee have anything to do with it as a body?

Mr. DRAKE. Yes, sir; it was all conducted by the executive committee, all done by them.

Senator MORGAN. Then it was not by the board?

Mr. DRAKE. The executive committee is the board, in the absence of the board, and reports its action to the board.

Senator MORGAN. I mean the railroad board, of directors.

Mr. DRAKE. The board of directors of the Panama Railroad Company, when this matter was concluded, approved of the action of the executive committee.

Senator MORGAN. That was in August?

Mr. DRAKE. In August, 1904.

Senator MORGAN. You have got the figures badly mixed up, or I have, as to the dates.

Mr. DRAKE. The contract for the repair of the steamers was made in November, 1903. The steamers were repaired and the payments were made on account of the repairs in August, 1904. Messrs. Walker, Grunsky, and Burr were elected to the board in June and July, 1904, and were present at the meetings at which the action of the executive committee was determined, was reported, and approved.

Senator MORGAN. I thought you said that that meeting took place in November?

Mr. DRAKE. No, sir; I read the date.

Senator MORGAN. Read the minutes, please. Let us have the story out of the book.

Mr. DRAKE. I do not think there is any record of that in this book, except the report. [After consulting minute book.] No, sir; it does not appear in these minutes. There is shown here the meeting of the board of August 25; the meeting of the board of September 15, 1904—present, Drake, Felton, Cromwell, Brown, Gallaway, Comstock, and Burr; meeting of the Panama Railroad board of directors, September 22—present, Simmons, Parker, Felton, Brown, Gallaway, Comstock, Walker, Grunsky, Parsons, and Drake. I have not any doubt that is the meeting, but this does not show it. It says here: "Extracts from the minutes of the several meetings of the executive and finance committee held September 16 and 20 were read as an explicit statement of all action had since the last meeting of the board. Upon motion, duly seconded, said action was approved and made the action of the board." There is no reference at that meeting to the particulars of the report made by the executive committee.

Senator MORGAN. You have the date of the ratification by Walker, under the new régime, on the 26th day of September. A while ago you had it in August.

Mr. DRAKE. No, sir; what I meant to state, and what I think I did state, was that whatever was done in the ratification of this operation was made by the board of which these gentlemen were members; that the responsibility of the operation of the railroad had been turned over to this Commission, because they constituted a majority of the board in May of that year, and that all action that had been had by the executive committee was reported to the board and approved.

Senator MORGAN. The date of the report and the date of the approval was the 26th day of September?

Mr. DRAKE. I have not the date of the report here. I think it was, but I have not the date here.

Senator MORGAN. The date of the meeting at which that was approved was the 26th day of September, was it?

Mr. DRAKE. I have not the date. I do not want to give the date of the meeting.

Senator MORGAN. There is the date, on that book.

Mr. DRAKE. I say that that was the meeting at which all the members were present.

Senator TALIAFERRO. Do I understand you to say that there was a finance committee?

Mr. DRAKE. Yes, sir; it is the executive and finance committee.

Senator TALIAFERRO. The executive and finance committee?

Mr. DRAKE. The title of the committee is the executive and finance committee.

Senator TALIAFERRO. It is the same committee?

Mr. DRAKE. Yes, sir. I would like, Senator, to get the date of the report of the executive committee to the board at which its action was approved.

Senator MORGAN. I want to get the information from your minutes there of the board that approved it. I want you to point out the act of approval, now; the date of it.

Mr. DRAKE. I find no specific reference in the minutes of the board to the transaction.

Senator MORGAN. Then you can not state, as you have stated on your oath here, that that board ever did ratify it?

Mr. DRAKE. What I intended to say, and what I repeat, is that the action of the executive committee was reported to the board subsequently to the transaction in August, at which time the bonds were taken up and sold. The sale of the bonds was in August, and it was reported subsequently to the board and approved by the board.

Senator MORGAN. What was that date?

Mr. DRAKE. I can not give it.

Senator MORGAN. Is there any statement on your minutes of that fact?

Mr. DRAKE. No, sir; the statement is right here in a communication to me, or a memorandum to me, from the first assistant secretary.

Senator MORGAN. Who is the first assistant secretary?

Mr. DRAKE. Mr. Rossbottom.

Senator MORGAN. The Assistant Secretary of State, or of War, or what?

Mr. DRAKE. The first assistant secretary of the company. I asked him to look at the minutes and see whether or not the report of the executive committee had been made to the board, and whether it had been ratified by the board.

Senator MORGAN. It has not been stated before that you had a first assistant secretary.

I want to find out now, and I want to be very exact in my questioning, and I want you to be equally so in your answers—I want to find out, first of all, the date of the meeting at which this transaction about the repair of these vessels and the pledge or the payment of those bonds was reported to the meeting of the board of directors of the Panama Railroad and was ratified.

Mr. DRAKE. Yes, sir.

Senator MORGAN. Can you give it?

Mr. DRAKE. I can not; no, sir.

Senator MORGAN. Is it there [indicating minute book]?

Mr. DRAKE. It is not, except in the general statement, at each succeeding meeting, which I have read before, that an explicit statement of all action had by the executive committee was made to the board by reading the minutes of the executive committee, and the action of the executive committee was approved and made the action of the board.

Senator TALIAFERRO. How do you know, of your own knowledge, that that executive committee has ever approved these contracts for the repair of the vessels, and that the board has approved of their report?

Mr. DRAKE. Absolutely, and I so testify; and I will answer as to the date of the meeting of the board at which that action was approved as soon as I can procure it.

Senator MORGAN. Then your statement is that you know, of your own knowledge, that the executive committee has approved of this transaction?

Mr. DRAKE. Yes, sir.

Senator MORGAN. In regard to the repair of the vessels, and you know of your own knowledge that the railroad directors, when Walker and these other Isthmian Commissioners were present, ratified it?

Mr. DRAKE. Yes, sir.

Senator MORGAN. But you can not show on your records that anything of that sort was done?

Mr. DRAKE. I can not show it specifically.

Senator MORGAN. We can not have it at all unless it is specific.

Mr. DRAKE. Then I ask that the statement that I have repeated so often, I am sorry to say, be taken as my answer for the moment, and that is that at the meeting that clause that I have read about extracts from the minutes, that record is made at every meeting, that the full report was made to the board, with those members present, of all action had by the executive committee, and the action of the executive committee was approved.

The CHAIRMAN. The minutes of the executive committee will show this, as I understand it?

Mr. DRAKE. Absolutely; and they will be here just as quickly as I can get the book.

Senator TALIAFERRO. Have you any statement of earnings since this Government took charge of the road?

Mr. DRAKE. Yes, sir; I have a complete statement.

Senator TALIAFERRO. I do not want you to submit it now, as it will interrupt Senator Morgan. You can bring it in later.

Senator MORGAN. Now Mr. Drake, I have been trying to get at an explanation made in a report of General Davis to the president of the Commission, I suppose, and about which he has made a statement here. I will read it so that you can understand the bearing of it—

Mr. DRAKE. Yes, sir; I understand what you mean.

Senator MORGAN. Though I see that you are prepared for it. You already understand it, and you have prepared for it, before you came here—this statement of Walker's? Do you not know about it?

Mr. DRAKE. About Mr. Wallace?

Senator MORGAN. I mean General Davis. Did you not know that General Davis had made a statement here?

Mr. DRAKE. No, sir.

Senator MORGAN. Did you not know what it was, and did you not come prepared to meet it?

Mr. DRAKE. No, sir. I knew that Mr. Wallace made a statement that we had sold 100 bonds—that we had exhausted our resources in paying dividends.

Senator MORGAN. He did not state that. He did not state that you had stolen a hundred bonds.

Mr. DRAKE. He said we had sold 100 bonds. We sold 265 bonds. So he was wrong to that extent.

Senator MORGAN. You all seem to be down on Wallace. I do not know exactly why.

Mr. DRAKE. Excuse me. Mr. Wallace is a very good friend of mine.

Senator MORGAN. Yes, you are all good friends, until you get after each other, and then you fight like tigers. I will read what General Davis says [reading]:

“Then follows a statement of dividends paid and some comments, one of which is, ‘The present situation of the railroad is not, therefore, favorable.’”

He is quoting from a report [continuing reading]: “The annual report for 1903 gives the net income of the railroad and steamships at \$401,068, yet the road paid an 8 per cent dividend, or the sum of \$560,000, while in 1902 the net income was \$295,384 and the dividend paid was \$280,000.

“But for the circumstances that the payment of the last dividend went to the credit of the French Canal Company, that had already bargained to sell its property to the United States, and that the board simply did the bidding of the company, it is probable that the dividend of the company would not have exceeded the net earnings for the year.”

Mr. DRAKE. The dividends for what year, sir?

Senator MORGAN. 1903. He states here that the net income of the railroad and steamships was \$401,068, yet the road paid an 8 per cent dividend, or the sum of \$560,000, while in 1902 the net income was \$295,384 and the dividend paid was \$280,000.

That leads me to inquire why it was that you paid more money on dividends than you had earned during that year.

Mr. DRAKE. None of our dividends were ever paid out of the earnings of a given year. I have made a statement here, which I want to say I did not prepare in view of that. I want to be acquitted of that.

I prepared it, as I stated, honestly, because it was in line with previous statements I had made to the committee and what I assumed you would want, and showed what the surplus of the company was, and it was out of accumulated earnings that all but two of our dividends have been paid. I wish to say to you that at the time we had \$842,000, I think it was, of free assests, and I wish to say to you that we had several millions of surplus on hand.

Senator MORGAN. Do not speak of the surplus, because that was invested in the railroad. We got that anyhow, under our stock holdings.

Mr. DRAKE. You had not gotten it then.

Senator MORGAN. We were getting it, and had made the contract for it, and had fought the battles, as you stated here; we fought the battles that secured the revolution before you made this change. Is not that so?

Mr. DRAKE. I made no reference to the revolution.

Senator MORGAN. You made no reference to it, but that is the fact, as I understand the figures.

Now the net earnings, out of which you had made all your dividends heretofore—

Mr. DRAKE. Out of the accumulated net earnings.

Senator MORGAN. Well, I do not know about their being accumulated. If they were not net earnings—

Mr. DRAKE. Will you please allow me to say that I am explaining the action of a board of directors of a company that followed a consistent business policy? What they did they did in accordance with regular railroad practice, and they treated our net earnings as surplus; they treated accumulated earnings as a fund out of which a dividend might be declared to any extent.

The directors might properly have declared very much larger dividends than they did. Instead of doing so, they put it into the property. It was conservative management to that extent. If you ask me why, when the earnings for 1903 were \$401,000, I think you said, we declared a dividend of \$560,000, my answer is that we declared it out of accumulated earnings, earnings of this year and other years that were in the possession of the company at that time and were properly applicable to dividends. We might very properly have declared a 25 per cent dividend in that year and not been criticised by railroad men or by any of the practices of corporate management. But if you ask me to justify, or, rather, to establish the fact that we paid \$560,000 in that year erroneously, when the earnings were only four hundred and some thousand dollars, I can not do it.

Senator MORGAN. You can not justify it?

Mr. DRAKE. I can not do it. I can not justify that argument that it was erroneously done.

Senator MORGAN. I am not making an argument about anything myself. You seem to be. I am trying to get at some facts upon which I suppose the Senate will have to pass.

Mr. DRAKE. I am trying to furnish them, Senator.

Senator MORGAN. You declared this dividend of \$560,000 that year. Did you pay it?

Mr. DRAKE. Yes, sir.

Senator MORGAN. To whom did you pay it?

Mr. DRAKE. To the stockholders of record.

Senator MORGAN. In money?

Mr. DRAKE. Yes, sir. And there never was a time when we declared a dividend that we did not have ample funds in hand for that dividend, and very much more, as I have shown by these statements.

Senator MORGAN. You paid it out of money that belonged to the company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And that would have belonged to the United States, if you had not paid it out, as a principal stockholder?

Mr. DRAKE. I do not recognize that. I do not know about that?

Senator MORGAN. You paid it to the canal company while they held the stock?

Mr. DRAKE. Yes, sir.

Senator MORGAN. In November, 1903?

Mr. DRAKE. Yes, sir.

Senator MORGAN. What is the date in November of this declaration?

Mr. DRAKE. I do not recall it. [After referring to document.] Two per cent was paid on April 3, 2 per cent on October 1, and 4 per cent on January 1; it was paid on January 1 because December 31 was Sunday.

Senator MORGAN. What year?

Mr. DRAKE. That was the year 1903; during the year 1903. That made up the 8 per cent. Two per cent was paid on April 3, 4 per cent on October 1, and 4 per cent on January 1 of the succeeding year.

Senator MORGAN. 1904?

Mr. DRAKE. It was paid on the 1st; disbursed on the 1st.

Senator MORGAN. When was the dividend declared?

Mr. DRAKE. The dividend of April 3 was declared at a meeting of the board held on March 26.

Senator MORGAN. What year?

Mr. DRAKE. 1903. It was declared payable on April 3.

Senator MORGAN. March 26, 1903, you declared now much of a dividend?

Mr. DRAKE. A dividend of 2 per cent, which was payable on April 3.

Senator MORGAN. Then, the next one? That is 2 per cent of it.

Mr. DRAKE. At a meeting of the board, held September 24th, a dividend was declared of 2 per cent.

Senator MORGAN. That is 4.

Mr. DRAKE (continuing). On the capital stock of the company, payable October 1.

At a meeting held December 10, 1903, a dividend of 4 per cent was declared upon the capital stock, payable on January 1, 1904.

Senator MORGAN. Yes. Now, that is 8 per cent.

Mr. DRAKE (continuing). To stockholders of record on December 28, 1903.

Senator MORGAN. Then you declared another dividend in January, 1904?

Mr. DRAKE. No, sir; we paid the dividend that we declared in December.

Senator MORGAN. That is the date of payment?

Mr. DRAKE. Yes, sir; it was paid to stockholders of record of December 28, 1903. The date of payment was January 1.

Senator MORGAN. Now, give the date of the contract with Cramp. What is the date of that contract with Cramp?

Mr. DRAKE. November 13, 1903.

Senator MORGAN. Did you pay Cramp any money on account as he went along with that work?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Give the date of payment and the amounts.

Mr. DRAKE. I can not do that now, sir. I can get that for you. I will have to get copies of that. Do you want me to get them? I want to make a memorandum of it, if you do.

Senator MORGAN. Yes; I want you to get it. What payments were called for in that contract? What are the dates of payment called for in that contract?

Mr. DRAKE. The contract was conditioned upon our paying them as work progressed in bonds, and it stipulated that we would make them cash advances on those bonds, they depositing the bonds with us from time to time, so that they might carry on the repairs. The payments that we first made to them from time to time were cash loans on the bonds, on which they paid us interest, and the final adjustment was made in August, 1904. I am going to get the dates of all of those.

Senator MORGAN. And the bonds were \$200,000?

Mr. DRAKE. Two hundred thousand dollars; yes, sir. When the repairs were completed, it was found that they cost \$370,000; something like \$373,000 and something. We had in our books, in our current assets, a depreciation fund amounting to \$102,000, which we had accumulated and put by for just such repairs. We applied \$102,000 of that depreciation fund to the cost of these repairs and sold \$265,000 of bonds to pay the balance.

Senator MORGAN. Let us get at that depreciation fund a moment. Was it kept in cash or on paper?

Mr. DRAKE. In cash. It was a regular contribution from earnings monthly, and was kept in cash, at interest, in the trust company.

Senator MORGAN. And you resorted to that for that payment of how much?

Mr. DRAKE. Of \$102,000 on account of the repairs. We applied it to that.

Senator MORGAN. When was that contribution made?

Mr. DRAKE. At the time of the settlement.

Senator MORGAN. In August, 1904?

Mr. DRAKE. Yes, sir. At the time of the settlement of their accounts. I will present the vouchers here.

Senator MORGAN. You then had that fund there and you resorted to that?

Mr. DRAKE. Yes, sir; and sold \$265,000 of bonds for the balance.

Senator MORGAN. At that time that fund belonged to the United States, did it not, as the chief stockholder?

Mr. DRAKE. Yes, sir.

Senator MORGAN. What you call the depreciation fund?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Then, having put in deposit with Mr. Cramp at the time that contract was made \$200,000 of bonds—

Mr. DRAKE. From time to time we emitted bonds to that extent to them. They were not all given at once, but they were given as the work progressed.

Senator MORGAN. They were delivered as the work progressed?

Mr. DRAKE. Yes; at different times a certain number of the bonds were given in payment. I will read the contract.

Senator MORGAN. I shall have to put it in evidence, I see, but I want a little explanation of it before it is put in. I do not want you to read it now.

The contract was, then, that you were to put up \$200,000 of bonds, from time to time, as the work progressed, and that you had the privilege of redeeming them?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That, then, was not a payment of the bonds?

Mr. DRAKE. Will you let me read this [referring to contract]?

Senator MORGAN. Please follow me, if you will. I am so dull that I can not do two things at once, as you can.

You commence, then, giving the bonds out on this arrangement under the right of redemption?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And then upon that you make cash payments?

Mr. DRAKE. Cash advances.

Senator MORGAN. Well, advances.

Mr. DRAKE. Yes, sir.

Senator MORGAN. Upon which you would charge him interest?

Mr. DRAKE. Yes, sir.

Senator MORGAN. So as to keep the accounts in balance? The bonds were drawing interest?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you charged the same rate that was in the bonds?

Mr. DRAKE. Yes, sir.

Senator MORGAN. So as to keep the bookkeeping all right. You went on that way until \$200,000 of bonds were put in?

Mr. DRAKE. Yes, sir.

Senator MORGAN. When was the last of those bonds put in?

Mr. DRAKE. I will get the dates of the payments.

Senator MORGAN. In August?

Mr. DRAKE. Prior to August, 1904.

Senator MORGAN. And not until then. Yes. So that when this property was turned over to the United States Cramp held those bonds. Have they ever been taken up?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Taken up by the company?

Mr. DRAKE. They were taken up and sold; \$265,000 of bonds were sold.

Senator MORGAN. By whom?

Mr. DRAKE. In the open market.

Senator MORGAN. What for?

Mr. DRAKE. To raise the money to settle the account with Cramp.

Senator MORGAN. How many were sold?

Mr. DRAKE. Two hundred and sixty-five thousand dollars.

Senator MORGAN. What became of the money you had been paying Cramp all this time? Was that the balance?

Mr. DRAKE. That was deducted from the amount due them. They paid their cash loans.

Senator MORGAN. When you came to make a settlement with Cramps—

Mr. DRAKE. We charged them with the money that had been loaned them.

Senator MORGAN. You answer a question before I can get it out. When you came to make a settlement with Cramp, you paid him \$265,000?

Mr. DRAKE. No, sir.

Senator MORGAN. How much?

Mr. DRAKE. We paid him the balance due him.

Senator MORGAN. How much was that?

Mr. DRAKE. I do not know, sir. I shall have to find it.

Senator MORGAN. You do not know what the balance was that was due, then?

Mr. DRAKE. No, sir; because I do not know what the dates or amounts of payment were.

Senator MORGAN. What fund did you pay that out of?

Mr. DRAKE. We paid it out of the proceeds of the sale of the bonds.

Senator MORGAN. So that you sold \$265,000 of those bonds that you had left in Cramp's hands to raise the money to pay him for repairing those ships?

Mr. DRAKE. Senator, I am sorry if I can not make myself plain.

Senator MORGAN. Well, you certainly can not, if—

Mr. DRAKE. The contract called for hypothecating, or rather for the payment of \$200,000 of bonds—

Senator MORGAN. I think you had better stick to that word "hypothecating."

Mr. DRAKE. No, sir. That was a mistake, and I do not want to stick to a mistake. They hypothecated the bonds with us. We paid them \$200,000 in bonds. We made delivery and cash advances on those bonds while they held them. When we came to settle their account, the total cost of the repairs, of the \$370,000, we applied \$102,000 of the depreciation fund for steamers, and we sold the \$200,000 of bonds that we had taken up from the Cramps, and \$65,000 more of bonds, making \$265,000 in all, to raise the necessary money to pay the whole amount of \$370,000 due to the Cramps.

Senator MORGAN. Now I think we understand it. Therefore, when we took over those ships, we took them over with a debt which finally amounted to \$265,000, which you sold bonds to get the money to pay?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That is the fact?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Did Cramp buy the bonds?

Mr. DRAKE. No, sir.

Senator MORGAN. Who has got them now?

Mr. DRAKE. They were sold to the public, and are outstanding.

Senator MORGAN. Where had these bonds been kept before you sold them?

Mr. DRAKE. In the care of the committee of securities of the company.

Senator MORGAN. Had they ever been issued to the public?

Mr. DRAKE. They were in the treasury of the company. There is a question about what you would call issued to the public. They were

issued, bonds up to the full extent of the authorized issue, 4,000 bonds. Of that 4,000 bonds a certain number were sold when we retired the 7 per cent sterling. A certain additional number were sold when we paid the contractors who had built the La Boca wharf. The balance were in the company's treasury. And of that balance, \$265,000 were sold to pay Cramp & Sons. Of the balance that have not been redeemed by drawing, there are 628 in the company's treasury now.

Senator MORGAN. These are amongst the bonds that were subject to be drawn and paid on the drawings—they were that class of bonds?

Mr. DRAKE. I do not understand the question, Senator.

Senator MORGAN. There were certain bonds there that you owed; that you put in circulation that were subject to redemption?

Mr. DRAKE. Yes, sir.

Senator MORGAN. These are of that class?

Mr. DRAKE. All of the issue are subject to redemption.

Senator MORGAN. They are of that class?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Were those bonds ever before in circulation, having been sold by the company—those that you sold in order to get the money to pay the Cramps?

Mr. DRAKE. No, sir.

Senator MORGAN. They had been all the time in the treasury of the company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. What resolution of the board authorized the sale of those bonds? Please refer to it.

Mr. DRAKE. I think that will be another case where the action of the executive committee was approved by the board.

Senator MORGAN. I am afraid so. I am afraid it is, but I want to find out.

Mr. DRAKE (after looking through book of minutes). I do not see it specifically stated in this minute book.

Senator MORGAN. Then, there is no record of any order by the board of directors of the Panama Railroad Company for a sale of those bonds?

Mr. DRAKE. There is a record of the approval of the acts of the executive committee.

Senator MORGAN. There is no record, though, on your minutes?

Mr. DRAKE. I do not see any; no, sir.

Senator MORGAN (continuing). By the company authorizing the sale of those bonds. I wish to ask you in regard to all this transaction, beginning with that contract with Cramp—

Mr. DRAKE. I would like to answer that last remark that you made, Senator, if I may.

Senator MORGAN. Yes.

Mr. DRAKE. I say there is an official record of the authority to sell the bonds. It is not in this book.

Senator MORGAN. That is the book of the railroad company?

Mr. DRAKE. This is the minute book of the board of directors.

Senator MORGAN. I say, of the board of directors of the railroad company.

Mr. DRAKE. The book shows that they approved the action of the executive committee. This book shows that.

Senator MORGAN. I am not going to take your answer upon that other book until you produce the record to show it. I want to see it before I take that as being established.

From the time that that contract was made with Cramp down to the time of the settlement of this transaction, in September, 1904, your minutes do not show what the transaction was?

Mr. DRAKE. This book of minutes does not.

Senator MORGAN. That book of minutes does not?

Mr. DRAKE. No, sir.

Senator MORGAN. Those are the minutes of the railroad company?

Mr. DRAKE. This is the minute book of the board of directors.

Senator MORGAN. Of the board of directors of the railroad company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. All the transactions in regard to that business were in the hands of the executive committee, and whatever is shown by their records is what took place in these transactions, and it is not shown anywhere else?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Now, who comprised that executive committee during this period of time?

Mr. DRAKE. J. Edward Simmons, William Nelson Cromwell, Vernon H. Brown, Edward A. Drake, Xavier Boyard, during part of the time; and J. Edward Simmons, William Nelson Cromwell, J. H. Parker, Vernon H. Brown, William Barclay Parsons, and Edward A. Drake during the balance of the time.

Senator MORGAN. When did Mr. Parsons come into that executive committee?

Mr. DRAKE. In August, I think, sir. I ought to have these things on the end of my tongue, but I do not pretend to remember them.

Senator MORGAN. If you get it from the books, that will be satisfactory to me.

Mr. DRAKE. Yes, sir.

Senator MORGAN. Can some one give me the date of the ratification of the Hay-Varilla treaty.

Senator KITTREDGE. The 23d of February, 1904.

Senator MORGAN. At what time was it dated?

Senator KITTREDGE. It was negotiated in November, 1904.

Senator MORGAN. On the 17th, was it not?

Senator KITTREDGE. I think so; I am not quite sure.

Mr. DRAKE (reading from minute book). At the meeting of October 13, 1904, the President announced to the board, under the authority given him by amended article 8, the appointment of William Barclay Parsons as a member of the executive and finance committee.

Senator MORGAN. This transaction with Cramp had been closed before that?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Why did you put Parsons in as one of the members of the executive committee while this transaction was current?

Mr. DRAKE. I gave you the directors of the two years 1903 and 1904.

Senator MORGAN. I was not running by years; but about the date of the making of the Cramp contract and the date of the final settlement of it Mr. Parsons was not one of the executive committee?

Mr. DRAKE. No, sir.

Senator MORGAN. He was not a member of the board at all at the time?

Mr. DRAKE. I will find out about that.

Senator KITTREDGE. It is stated here [reading] that the treaty was signed November 18, 1903; and then ratification advised by the Senate February 23, 1904; and it was ratified by Panama December 2, 1903, and then ratified by the President February 25, 1904, and ratifications were exchanged February 26, 1904, and proclaimed the same date.

Senator MORGAN. Yes. Thank you.

Mr. DRAKE. Mr. Parsons was elected as a director on September 15, 1904, and was appointed a member of the executive committee on October 13, 1904.

Senator MORGAN. So that the Cramp transaction was entirely closed before he became a member of the executive committee?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Very good. Now we have that. That last payment of 4 per cent out of the 8 per cent that you made during the year 1903 was made after the Hay-Varilla treaty had been signed—after the revolution in Panama?

Mr. DRAKE. Yes, sir.

Senator MORGAN. The date of these dividends you have given. Four per cent of it was prior to the revolution in Panama and 4 per cent afterwards. And you declared a dividend there of \$560,000.

Mr. DRAKE. During the year.

Senator MORGAN. Yes; during the year, which is in excess of the earnings during the year, which were \$401,068, net earnings. The difference between the amount that you declared a dividend for and the net earnings that year was how much?

Mr. DRAKE. One hundred and fifty-nine thousand dollars. The dividend was not declared out of the earnings of that year.

Senator MORGAN. And while 4 per cent of it had been paid before the Panama revolution, 4 per cent, or half of it, was paid afterwards?

Mr. DRAKE. Yes.

Senator MORGAN. And then you left a debt standing—you were on the executive committee, and I am asking you this question—you left a debt standing on the ship arrangement that it took——

Mr. DRAKE. Two hundred and sixty-five thousand dollars——

Senator MORGAN (continuing). To pay?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And the United States had to pay it?

Mr. DRAKE. The company paid it.

Senator MORGAN. Well, out of the property belonging to the United States?

Mr. DRAKE. The Government had not taken possession of the property.

Senator MORGAN. It had not?

Mr. DRAKE. No, sir; it had not—oh, yes, it had; yes, sir.

Senator TALIAFERRO. When was the last 4 per cent dividend declared?

Senator MORGAN. December, 1903.

Mr. DRAKE. December 10, 1903.

Senator MORGAN. After the Hay-Varilla treaty had been made.

Well, now, I want to be very frank with you, and it looks to me like you were diverting funds from the United States into the Panama Canal Company. You paid that dividend to the Panama Canal Company?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. The Panama Railroad Company, you mean?

Senator MORGAN. No; the Panama Canal Company. They were the holders of the stock until the stock was turned over, in May, 1904.

Senator TALIAFERRO. Yes; excuse me.

Mr. DRAKE. The stock of the railroad company was not turned over to the United States Government until May 7, by actual transfer in Paris, and up to that time the stock belonged to the Panama Canal Company, as far as the directors of the railroad company knew.

Senator MORGAN. It looks to me, Mr. Drake, that the Government of the United States was out of pocket the whole amount of the bonds that you gentlemen authorized to be sold on that occasion, and that there is no justification in it; and if there is any justification in it, I would like you to explain it.

Mr. DRAKE. I explain it simply by the fact that the act was then authorized by the then owners of the property, exactly as our acts are authorized and approved by the present owners of the property. The property of the company belongs to the owners of the stock of the company. I am telling you a fact, Senator. The property of a company belongs to the owners of the stock of the company, and the acts of the directors of a company are to be approved by the owners of the company, so long as the stock stands in their names.

Senator MORGAN. You evidently stand on the position that this executive committee of that railroad company had the right to make these transactions?

Mr. DRAKE. Absolutely, sir.

Senator MORGAN. Yes; but still you got it ratified after the Isthmian Canal people came in.

Mr. DRAKE. The railroad company had nothing whatever to do with that, sir.

Senator MORGAN. Were not the directors present?

Mr. DRAKE. The railroad company were not parties to it in any way. The affairs of the railroad company were administered by the board of directors.

Senator MORGAN. Well?

Mr. DRAKE. And the board of directors conducted the business of that company.

Senator MORGAN. When I say the railroad company, I mean its board of directors.

Mr. DRAKE. Yes, sir.

Senator MORGAN. Yes; and you, as one of that executive committee, appealed to the action taken by the board of directors after the Isthmian Canal representatives had come in, as a ratification of what you had done?

Mr. DRAKE. Yes, sir; but we are talking about things that happened prior.

Senator MORGAN. Why did you want ratification if the act was perfect?

Mr. DRAKE. I only spoke of that to show that the acts of the board, or rather the acts of the committee that were made the acts of the

board, were also the acts of the Isthmian Canal Commission and of the Government.

Senator MORGAN. They were not the acts of the Isthmian Canal Commission transacted under its board, but only approved by it afterwards.

Mr. DRAKE. You ask me a question, and I say that the Government took possession of the railroad on May 7, 1904; and from that time on, everything that was done by the board of directors was done by and with the approval of the United States Government, represented by the Isthmian Canal Commission; and if it was not, the Isthmian Canal Commission did not perform its duty as a majority of the board.

Senator MORGAN. The approval could not have been given by the Isthmian Canal Commission members until they were made members of the board.

Mr. DRAKE. Well, there were three or four of them members at that time.

Senator MORGAN. At what time?

Mr. DRAKE. At the time the action you are speaking of was approved—the conclusion of the Cramp contract.

Senator MORGAN. I admit that, but that was between May 7 and September 17—about that time.

Mr. DRAKE. Yes, sir.

Senator MORGAN. Before they came into the board?

Mr. DRAKE. Yes, sir.

Senator MORGAN. So that you wanted to make their ratification relate back to cover all that had been done?

Mr. DRAKE. I wanted to make that ratification cover the consummation of a contract which had been previously made. If they wanted so to do, they could have directed us to take up those bonds and not to sell the bonds.

Senator MORGAN. You had sold them?

Mr. DRAKE. No, sir; I beg pardon. I want to get the dates of those things.

Senator MORGAN. Were they sold by order—

Mr. DRAKE. They came in on May 7, and they had the board between that time—

Senator MORGAN. You are not stating facts, Mr. Drake. These men that were appointed from the Isthmian Canal Commission did not come in on May 7.

Mr. DRAKE. The Government came into possession of the property May 7.

Senator MORGAN. I am not talking about that. Do not try to dodge facts in that way.

Mr. DRAKE. Excuse me. I am not trying to do so.

Senator MORGAN. That is not becoming.

Mr. DRAKE. I did not intend to do it.

Senator MORGAN. These men who were taken and put into the Commission upon resignations of other men who were in the Commission did not come in there until September.

Mr. DRAKE. I will straighten that out now. [After referring to minute book.] Here is a meeting of July 26—changes in directors. At the meeting of July 14, 1904, Admiral Walker was elected. Mr. William H. Burr was elected at the same meeting, July 14. Mr. C. Ewald Grunsky was elected at the same meeting, July 14. At the fol-

lowing meeting, July 26, Messrs. Walker, Burr, and Grunsky were present.

Senator MORGAN. That is the first time they were present?

Mr. DRAKE. They were present at the meeting when they were elected.

Senator MORGAN. That is the first time they were present, I say, was it not?

Mr. DRAKE. That is the first time that they were present as duly elected directors; yes, sir.

Senator MORGAN. So that it was July 26 before you could appeal to them as members of the Isthmian Canal Commission, who had been elected directors for the ratification of what you had done in that Cramp business, and you did appeal to them, and you got their ratification, without their having ever ordered any part of it. Do you undertake to say that at that meeting, when they came there, July 26, they ordered the sale of these bonds, or had it been ordered before?

Mr. DRAKE. No; I undertake to say that at a subsequent meeting—at that meeting or a subsequent meeting—they ratified the action taken by the executive committee by which the bonds were ordered to be sold.

Senator MORGAN. Then the executive committee, as you have now just stated, for the first time, ordered those bonds to be sold?

Mr. DRAKE. I say so, because I do not find an order of the board.

Senator MORGAN. Do you not remember that that is so, being one of them?

Mr. DRAKE. Yes, sir.

Senator MORGAN. The executive committee, then, ordered the bonds to be sold, and then, after Admiral Walker and these other gentlemen came in from the Isthmian Canal Commission, you got their ratification of what you had done?

Mr. DRAKE. I have not got the date of the sale of the bonds here.

Senator TALIAFERRO. And the bonds had been sold and delivered when these men came in?

Mr. DRAKE. No, sir. The bonds were not sold until August or September, when the contract was closed—about the middle of August. I will get that date exactly. The Government came into possession of the property on the 7th of May. All of these gentlemen who became directors in July, and later, might have been made directors at that time.

Senator TALIAFERRO. This transaction, then, was after the property had been turned over to the Government on the 7th of May?

Mr. DRAKE. The consummation of the contract was.

Senator TALIAFERRO. I say, this transaction that Senator Morgan is speaking about now?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Yes; when I think the Government of the United States ought to have had some word about it, and some show, and they had none.

Senator TALIAFERRO. The dividend seems to be a remarkable feature.

Senator MORGAN. That dividend that you paid in excess of net earnings—

Mr. DRAKE. Of that year. The dividend that was paid in 1903 in excess of the earnings of 1903.

Senator MORGAN. 1903?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That did not belong to these stockholders, did it?

Mr. DRAKE. I think it did; yes, sir.

Senator MORGAN. On what ground do you put it?

Mr. DRAKE. I have stated it, and I repeat that it belonged to the stockholders. The dividends in companies are declared payable to stockholders of record on given dates. The stockholders of record of the company during that time were not the United States Government. The stockholders of record were the French Canal Company, and the dividends were paid to them as stockholders of record on the books of the company.

Senator MORGAN. If the payment was regular, where is the conscience or morality that lies at the back of paying stockholders \$156,000 more than they were entitled to?

Mr. DRAKE. There is no question of conscience or morality involved in it.

Senator MORGAN. I think there is.

Mr. DRAKE. I beg to differ from you, if I may be allowed to, and if it is proper that I should. The names in which a stock stands are those of the people who own the property. Until those certificates of stock are endorsed on the back and the stock is transferred on the books of the company, everything that is in the company is vested in the holders of the stock, and that stock was not transferred until the 7th of May, and that was done in Paris, and on the 18th of May in the United States.

Senator MORGAN. That may justify an officer as against the company in paying over the money to these stockholders, but it did not justify them as owners of it, because it did not belong to them.

Mr. DRAKE. That is another question.

Senator MORGAN. That is what I am trying to get at. Who drew up these papers? Who drew that Cramp contract?

Mr. DRAKE. It was drawn under advice of counsel.

Senator MORGAN. Who?

Mr. DRAKE. Probably by Sullivan & Cromwell. No contract is made by the company that is not prepared and revised by them.

Senator MORGAN. They drew up the contract?

Mr. DRAKE. Yes, sir; under the terms that had been made by the officers.

Senator MORGAN. And Cromwell was a member of the executive committee?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And a stockholder?

Mr. DRAKE. Yes, sir.

Senator MORGAN. In the Panama Company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Do you know how much stock he owned at that time?

Mr. DRAKE. No, sir. I can find out, though.

Senator MORGAN. You have made a report heretofore that will show that.

Mr. DRAKE. I think it was 37 shares, or something like that.

Senator MORGAN. And the old Panama Canal Company owned a large number of shares at that time?

Mr. DRAKE. Yes, sir; all but a very small minority. They owned sixty-eight thousand eight hundred and some.

Senator MORGAN. The old company?

Mr. DRAKE. Oh, I do not know about the old company. The New Panama Canal Company.

Senator MORGAN. I am talking about the old company. Here is a list of them [reading]: William Nelson Cromwell owned 31 shares; Jean Pierre Gautron, liquidator, owned 68,534 shares; it stood in the name of the old Panama Canal Company and this railroad.

Mr. DRAKE. Yes, sir. What was the date of that stock list, Senator?

Senator MORGAN. It was given on your former statement, New York, March 6, 1902.

Mr. DRAKE. Yes, sir.

Senator MORGAN. And Mr. Edouard Lampre, who came over here as counsel, owned 341 shares.

Mr. DRAKE. He was the secretary of the French company.

Senator MORGAN. He was the secretary of the New Panama Canal Company.

Mr. DRAKE. Yes, sir. I think, Senator, you should have a later stock list, if there was one. A stock list is a thing that changes, and that may not have been the one later.

Senator MORGAN. I insist that that dividend that you made there over and above the net earnings for the year 1903 and paid after Panama had seceded and after the treaty was made, or at least was negotiated and signed between the United States and Bunau-Varilla on behalf of Panama, was a diversion of the money that belonged to the United States as the owner of that stock to the old Panama Canal Company. That is what I claim.

Mr. DRAKE. That is a very serious charge to make, Senator.

Senator MORGAN. Well, I will give you plenty of time to explain it, if you can do it at any time.

Mr. DRAKE. I have done it.

Senator MORGAN. You can think it over until we meet again, and I will ask you for an explanation.

Mr. DRAKE. I can not explain it any differently from what I have.

Senator MORGAN. Then the thing is closed, and I will not ask you any more questions.

The CHAIRMAN. Have you finished your questioning, Senator?

Senator MORGAN. I am through on that point.

Senator TALIAFERRO. How long have you been connected with this Panama Canal Railroad Company, Mr. Drake?

Mr. DRAKE. Since 1888.

Senator TALIAFERRO. Did it bring you more or less in connection with the owners of the property—the stockholders of the French Company?

Mr. DRAKE. No, sir; not particularly. I saw them occasionally. I was brought in contact with Mr. Boyard, who was the representative of the French Company. I do not think I ever met any of the others, except Mr. Whaley, who was a representative of theirs here, an appointee of theirs here. He was vice-president and general manager of the company for a time.

Senator TALIAFERRO. What has become of Mr. Whaley?

Mr. DRAKE. He has retired. He has gone back to Paris.

Senator TALIAFERRO. Did you ever hear or know of any stockholder in the French Canal Company living in this country?

Mr. DRAKE. No, sir; unless Bunau-Varilla is a stockholder. I do not know that he is. I believe that he was one of the stockholders in one of the companies, either the old company or the new, and so as not to answer your question categorically, or apparently evasively, I mention that I knew of him, and I met him once.

Senator TALIAFERRO. You never heard of any American who was a stockholder in either of the French companies?

Mr. DRAKE. Never, sir. I believe you asked me what I know?

Senator TALIAFERRO. I asked you if you had ever heard or knew.

Mr. DRAKE. I believe that a number of French bankers, or German bankers, were interested in the French enterprise, but I do not know it.

Senator MORGAN. In New York?

Mr. DRAKE. Yes, sir.

(Thereupon the committee adjourned until to-morrow, Wednesday, April 25, 1906, at 10.30 o'clock a. m.)

(The following papers are, by order of the committee, printed in connection with the testimony of Mr. Drake:)

**RESULT OF THE OPERATIONS OF THE PANAMA RAILROAD COMPANY
FOR THE CALENDAR YEAR 1905.**

Summary of earnings and expenses for the twelve months ending December 31, 1905 and 1904.

	1905.	1904.	Increase.	Decrease.
Railroad earnings:				
Colon to Panama.....	\$1,223,960.14	\$944,153.67	\$279,806.47	
Panama to Colon.....	629,299.88	620,681.96	8,617.92	
Miscellaneous.....	471,668.37	487,640.87		\$15,972.50
Total railroad earnings.....	2,324,928.39	2,052,476.50	272,451.89	
Total railroad expenses.....	1,517,475.06	1,021,312.97	496,162.09	
Net earnings.....	807,453.33	1,031,163.53		223,710.20
Per cent of expenses to earnings.....	65.27	49.76	15.51	
Steamship line:				
Total earnings.....	\$1,364,251.07	\$1,148,265.74	\$220,985.33	
Total expenses.....	1,341,186.27	1,013,991.51	327,194.76	
Net earnings.....	23,112.80	129,274.23		\$106,161.43
Per cent of expenses to earnings.....	98.31	88.69	9.62	
Grand total earnings.....	\$3,689,179.46	\$3,195,742.24	\$493,437.22	
Grand total expenses.....	2,858,613.33	2,085,304.48	823,308.85	
Total net earnings.....	830,566.13	1,160,437.76		\$329,871.63
Per cent of expenses to earnings.....	77.49	63.69	13.80	

Income account and profit-and-loss account for twelve months ending December 31, 1905.

INCOME ACCOUNT.

Railroad:		
Gross earnings from operation.....	\$2,324,928.39	
Operating expenses.....	1,517,475.06	
Net earnings from operation.....		\$807,453.33
Steamship line:		
Gross earnings from operation.....	\$1,364,251.07	
Operating expenses.....	1,341,136.27	
Net earnings from operation.....		23,112.80

Add income from—		
Interest on securities owned	\$8,245.00	
Premium and interest on Treasury bonds drawn for redemption.....	1,377.50	
Difference between contract rate of interest, 3 per cent, and interest on 4½ per cent bonds, sold to prepay indebtedness due (in 1905) contractor new terminal at La Boca.....	12,597.05	
Interest and exchange.....	\$14,396.10	
Less interest October 1, 1905, to December 27, 1905, on 606 Panama Railroad 4½ per cent bonds, repurchased from Mackey & Co	6,590.25	
	7,805.85	
Adjustment of freight accounts for coffee shipments, season 1903-4	3,539.15	
		\$33,564.55
Total net income		864,130.68
Less:		
Interest on funded debt—		
First mortgage, 4½ per cent bonds—		
Interest on \$2,393,000, January 1 to March 31, 1905	26,921.25	
Interest on \$2,272,000, April 1 to December 31, 1905.....	76,680.00	
	103,601.25	
First mortgage sinking fund	150,000.00	
Concessionary subsidy to United States Government under treaty.....	25,000.00	
Subsidy to Republic of Columbia applied to—		
Interest on subsidy bonds—		
715 bonds, January 1 to October 31, 1905.....	\$35,750.00	
533 bonds, November 1 to December 31, 1905	5,330.00	
	41,080.00	
Redemption of subsidy bonds.....	183,920.00	
Drawback on Colombian and Panamanian produce.....	10,165.54	
		513,766.79
Surplus for twelve months.....		350,363.89

PROFIT AND LOSS ACCOUNT.

By balance to credit of profit and loss, December 31, 1904.....	\$4,797,423.44
By surplus from income account for twelve months ended December 31, 1905.....	350,363.89
By first mortgage 4½ per cent twenty-year sinking fund gold bonds, redeemed.....	140,000.00
	5,287,787.33
Less:	
To dividend No. 120, 5 per cent, paid February 1, 1905 (out of accumulated earnings to December 31, 1904)—	
Paid United States Government on 68,981 shares.....	\$344,905.00
Paid on remaining 1,019 shares....	5,095.00
	\$350,000.00
To cost of tug <i>Ancon</i> and three lighters dismantled or condemned during the year.....	73,083.60
To sundry accounts written off net	12,991.61
	436,075.21
By balance to credit of profit and loss, December 31, 1905.....	4,851,712.12

Statement of railroad freight tonnage handled.

FIRST.—FROM ALL POINTS TO ALL POINTS.

	1905.	1904.	Increase.	Decrease.
<i>Colon to Panama.</i>				
From New York to San Francisco.....	31,843	39,156	<i>Per cent.</i>	<i>Per cent.</i> 18.71
From New York and New Orleans to Panama, South Pacific, Central America, and Mexico.....	74,401	55,572	33.88	
From Europe to Panama, South Pacific, Central America, Mexico, and San Francisco.....	100,084	82,918	20.70	
From Colon to Panama (local):				
Commercial freight.....	38,802	26,036	49.03	
Isthmian Canal Commission.....	75,193	13,313	464.76	
Company's freight.....	31,409	17,344	81.09	
Total.....	351,732	234,339	50.10	
<i>Panama to Colon.</i>				
From San Francisco to New York.....	26,532	30,409		12.75
From South Pacific, Central America, Mexico, and Panama to New York.....	43,875	43,789	11.61	
From South Pacific, Central America, Mexico, San Francisco, and Panama to Europe.....	65,042	85,485		23.91
From Panama to Colon (local):				
Commercial freight.....	13,697	11,285	21.37	
Isthmian Canal Commission.....	19,896	1,993	898.24	
Company's freight.....	8,229	6,307	30.46	
Total.....	182,270	179,268	1.67	
Total west bound and east bound.....	534,002	413,607	29.11	

SECOND.—COUNTRIES OF ORIGIN AND DESTINATION.

<i>Colon to Panama.</i>				
For Panama.....	176,594	74,636	136.61	
For Central America.....	63,854	49,399	29.26	
For South Pacific.....	73,829	64,312	14.77	
For San Francisco.....	33,266	42,095		20.97
For Mexico.....	4,189	3,897	7.49	
Total.....	351,732	234,339	50.10	
<i>Panama to Colon.</i>				
From Panama.....	56,640	40,006	41.58	
From Central America.....	49,614	52,507		5.51
From South Pacific.....	47,369	53,952		12.20
From San Francisco.....	27,687	31,452		11.97
From Mexico.....	980	1,351		28.94
Total.....	182,270	179,268	1.67	
Total west bound and east bound.....	534,002	413,607	29.11	

PANAMA RAILROAD COMPANY.

Income account and financial exhibit, month of February, 1906.

[New York, April 23, 1906. John Adams, auditor.]

	Month of February, 1906.	Two months.		Month of February, 1906.	Two months.
To expenses:			By earnings:		
Railroad.....	\$128,682.06	\$270,020.45	Railroad transportation.....	\$218,772.63	\$938,094.13
Steamship line.....	118,821.62	224,526.48	Railroad miscellaneous.....	32,892.37	64,025.28
Balance surplus earnings.....	119,625.25	191,779.77	Steamship line.....	115,966.83	224,204.29
				867,131.83	686,325.70
			Income account:		
Income account:			By surplus earnings brought down.....	119,625.25	191,779.77
To accrued interest on first-mortgage bonds (Exhibit 1).....	8,520.00	17,040.00			
Redemption of first-mortgage bonds.....	12,500.00	25,000.00			
Subsidy to Republic of Panama.....	2,083.83	4,166.66			
Subsidy to Republic of Colombia.....	18,750.00	37,500.00			
Interest and exchange (Exhibit 2).....	222.45	499.64			
Draw back on Colombian and Panamanian produce (Exhibit 3).....	108.43	300.46			
Balance of income carried to credit of profit and loss.....	77,446.04	107,273.01			
	119,625.25	191,779.77	Profit and loss account:		
			By balance from last month.....	119,625.25	191,779.77
Profit and loss account:			Balance from income account this month.....		4,968,080.88
To balance to credit of profit and loss.....		4,968,080.88			4,968,080.88
			General balance sheet:		
General balance sheet:			By balance to credit of profit and loss account.....		4,968,080.88
To balance to debit of profit and loss account.....		11,800,541.02	Capital stock.....		7,000,000.00
Cost of road and equipment (Exhibit 4).....		266,116.74	First-mortgage bonds of 1897.....		2,879,000.00
Real estate on Isthmus (Exhibit 5).....		887,693.46	Sinking-fund subsidy bonds.....		533,000.00
Floating equipment (Exhibit 6).....		728,987.50	Bonds drawn for redemption—not presented (Exhibit 18).....		22,145.00
Bonds in treasury (Exhibit 7).....		21,566.36	Interest accrued on bonds—not due (Exhibit 19).....		53,260.00
On deposit with financial agents for redemption of bonds (Exhibit 8).....		533,000.00	Accrued funds for redemption of bonds (Exhibit 20).....		199,515.36
Advance of subsidy to Republic of Colombia.....		507,353.42	Accrued subsidy to Republic of Panama—not due, from Feb. 16, 1906, to Feb. 28, 1906.....		1,041.96
Improvement and construction work uncompleted (Exhibit 9).....		96,130.10	Interest on bonds due and unpaid (Exhibit 21).....		8,657.60
Cash in banks and with agents (Exhibit 10).....		702,729.64	Steamship and tug replacement fund (Exhibit 22).....		22,507.51
Coal and supplies on hand (Exhibit 11).....					

Due from connecting lines (Exhibit 12)	225,870.66	Unpaid wages (Exhibit 23)	8,409.71
Due from United States Government (Exhibit 13) ..	246,916.80	Isthmus drafts—not presented (Exhibit 24)	55,880.68
Due from companies and individuals (Exhibit 14) ..	62,000.18	Due to connecting lines (Exhibit 25)	51,139.55
Miscellaneous accounts (Exhibit 15)	201,814.25	Audited vouchers and pay rolls (Exhibit 26)	502,884.93
Unearned insurance and charter of steamers (Exhibit 16) ..	18,621.57	Miscellaneous accounts (Exhibit 27)	12,773.48
General average disbursements (Exhibit 17)	2,336.06		
Total	16,308,176.26	Total	16,308,176.26

Balance sheet exhibits.

EXHIBIT 1.

Accrued interest on first-mortgage bonds:

2,272 bonds at 4½ per cent from February 1, 1906, to February 28, 1906	\$8,520.00
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EXHIBIT 2.

Interest and exchange:

CREDIT.

Interest on deposits with trust companies and London bankers	\$30.67	
Profit on exchange—New York, London, and Isthmus drafts	126.00	\$156.67

DEBIT.

Loss on exchange—New York, London, and Isthmus drafts	375.00	
Miscellaneous exchange items	4.12	379.12
Debit		222.45

EXHIBIT 3.

Drawback on Colombian and Panamanian produce:

50 per cent of railroad's proportion of freight returned on shipments of produce from Republic of Panama	\$103.43
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EXHIBIT 4.

Cost of road and equipment:

Original construction	\$8,232,438.47	
New contract	1,265,503.69	
Terminal at La Boca	2,203,596.06	
Water tank and pipes to connect Monkey Hill reservoir	3,464.81	
Floating pile driver	7,428.03	
Construction of electric-light plant	10,055.19	
Construction of ice plant	6,792.70	
Dredging attachment for floating pile driver	1,063.34	
Filling lagoon north of Pier No. 1	4,100.73	
New tank at Pedro Miguel	3,141.48	
Construction of new tracks, Colon yard	12,462.48	
Improvements to pier No. 2	12,313.53	
Duplicate ice plant	10,220.77	
Duplicate electric-light plant	4,528.18	
New air compressor	5,444.66	
Wrecking crane	8,451.20	
Pneumatic tools and machinery	387.22	
La Boca waterworks	3,271.30	
Oil house at Cristobal	1,073.01	
Whitcomb planer	882.22	
Installation 2 upright boilers	3,901.95	\$11,800,541.02

EXHIBIT 5.

Real estate on Isthmus:

Aspinwall lands	\$100,000.00	
Panama lands	125,862.79	
Isthmus lands	25,631.05	
Interest in Panama Islands	14,622.90	\$266,116.74

EXHIBIT 6.

Floating equipment:		
Steamer <i>Allianca</i>	\$154, 152. 97	
Steamer <i>Finance</i>	221, 410. 39	
Steamer <i>Advance</i>	221, 186. 30	
		\$596, 749. 66
Tug <i>Cristobal</i>	57, 942. 53	
Tug <i>Bolivar</i>	70, 001. 78	
Lighters	162, 999. 49	
		290, 943. 80
		887, 693. 46

EXHIBIT 7.

Bonds in Treasury:		
Sinking fund subsidy bonds	\$100, 000. 00	
First-mortgage bonds of 1897 (unissued), 607 bonds	607, 000. 00	
First-mortgage bonds of 1897 (purchased), 21 bonds	21, 987. 50	
		\$728, 987. 50

EXHIBIT 8.

On deposit with financial agents for redemption of bonds:		
Mercantile Trust Company—Sinking fund subsidy bonds	\$20, 000. 00	
Central Trust Company, trustee—First-mortgage bonds	2, 145. 00	
Central Trust Company, trustee—Cash balance first-mortgage sinking fund	420. 36	
		\$22, 565. 36

EXHIBIT 9.

Improvement and construction work uncompleted:		
New "Y" at La Boca Junction	\$10, 393. 80	
Installation of Ancon electric light	13, 499. 06	
Improvement to La Boca pier	62. 50	
Construction coal chute	5, 916. 19	
Construction of two new steamers (completed plans)	4, 274. 19	
Cost of four cranes at La Boca pier	51. 00	
Installation of new electric motors on steam cranes	5, 658. 69	
Erection of Bucyrus wrecking crane	147. 00	
Improvement to pier No. 4	43, 870. 64	
Construction annex trainmaster's office	1, 099. 85	
Construction third story Washington House	4, 302. 52	
Extension of sidings	1, 107. 19	
New equipment	299, 578. 78	
Permanent refrigerating plant, Colon	5, 784. 68	
New lighters at Colon	416. 12	
Construction living cars for laborers	10, 415. 62	
Laundry at Colon	531. 87	
Bakery at Colon	257. 70	
Annex to cashier's office	230. 72	
Cost of Fay auto cut-off saw	514. 41	
Construction gravel dredge <i>Tabernilla</i>	1, 438. 69	
Construction new yard, Cristobal	32, 809. 78	
Construction 5-ton traveling crane	6. 10	
Erection of quarters, colored laborers—Cristobal	14, 663. 06	
Construction of temporary freight shed—La Boca	1, 419. 24	
Refrigerator cars	250. 43	
Warrington steam pile hammer	524. 70	
Construction mechanics' quarters—Cristobal	10, 436. 23	
Construction P. R. R. quarters—La Boca	4, 543. 05	

Improvement and construction work uncompleted—
Continued.

Erection of cantilever crane.....	\$30, 636. 10	
Construction family quarters—Cristobal.....	630. 60	
Erection Bucyrus pile driver.....	41. 23	
Extension of Cristobal commissary.....	745. 31	
Construction siding and yard-limit signs.....	74. 16	
Construction transfer table, Cristobal yard.....	705. 03	
Construction turntable, Cristobal yard.....	317. 18	
		<hr/>
		\$507, 353. 42

EXHIBIT 10.

Cash in banks and with agents:

Treasurer—Bank cash.....	\$60, 637. 43	
Treasurer—Office cash.....	552. 18	
Credit Lyonnais, London.....	10, 784. 01	
Cashier, Isthmus agency.....	20, 925. 20	
C. C. Van Riper, ticket agent.....	622. 68	
F. N. Drake, freight cashier.....	3, 267. 31	
H. I. Bawden, terminal superintendent.....	378. 97	
F. R. Peake, Pacific coast agent.....	262. 32	
Purser George K. Beers.....	200. 00	
Purser Ed. H. Arne.....	100. 00	
Purser Frank Maguire.....	100. 00	
Purser W. A. Norton.....	200. 00	
Purser Jas. B. Docharty.....	100. 00	
		<hr/>
		\$98, 130. 10

EXHIBIT 11.

Coal and supplies on hand:

Commissary material.....	\$350, 272. 20	
Less commissary sales.....	139, 388. 54	
		<hr/>
	\$210, 883. 66	
Railroad material.....	374, 357. 74	
Coal, Isthmus agency.....	30, 998. 05	
Coal and supplies in transit.....	48, 839. 44	
Old material from dismantled cars and locomotives.....	7, 675. 90	
Old material from tugs and lighters.....	998. 78	
Old rails account.....	27, 603. 70	
Wines and liquors, stock account.....	1, 372. 37	
		<hr/>
		\$702, 729. 64

EXHIBIT 12.

Due from connecting lines:

Railroad freight in transit.....	\$153, 271. 42	
Royal Mail Steam Packet Company.....	704. 37	
Leyland Line.....	4, 435. 18	
Hamburg-American Packet Company.....	4, 519. 97	
Freight New York to San Francisco to collect.....	29, 935. 13	
Pacific Mail wharfage and lighterage account.....	19, 615. 60	
Extra baggage, Pacific Mail Steamship Company.....	80. 89	
Prepaid freight, Central America and Mexico to New York.....	64. 13	
Advance charges.....	13, 243. 97	
		<hr/>
		\$225, 870. 66

North German Lloyd.

EXHIBIT 13.

Due from United States Government:

Post-Office Department.....	\$31, 991. 02	
Navy Department.....	148. 45	
Accepted Isthmus vouchers, I. C. C.....	382, 107. 71	
Unadjusted Isthmus accounts, I. C. C.....	375, 221. 62	
New York accounts collectible, vouchers against I. C. C.....	136, 390. 14	
Balance repairs old passenger station.....	784. 66	

Due from United States Government—Continued.

Construction cement block track, Panama yard..	\$22. 00	
Installation of telephone and telegraph	6, 596. 86	
Repairs first lot dump cars	1, 370. 84	
Repairs second lot dump cars	822. 63	
Construction new tracks, lumber yard	77. 00	
Construction spur track, Panama yard	224. 00	
Second main track	39, 152. 71	
Expropriation lots Colon Hospital	929. 34	
Cristobal yard	1, 294. 09	
Construction and maintenance of tracks	483. 21	
Construction and maintenance docks and wharves	18, 287. 38	
Erection of 5-ton yard crane	256. 82	
Expropriation lots line of road	3. 75	
Construction floating pile driver	213. 26	
New refrigerating plant steamship <i>Colon</i>	2, 623. 56	
Telegraph and telephone service I. C. C	2, 021. 11	
Construction culverts white house, I. C. C	692. 86	
Construction triangular wharf, I. C. C	65. 32	
		\$1, 001, 780. 34
Less:		
Advances by Commission on account of its indebtedness	650, 000. 00	
New York vouchers in favor of the Commission	105, 864. 04	
		755, 864. 04
		245, 916. 30

EXHIBIT 14.

Due from companies and individuals:

Thos. Cook & Son	\$941. 34	
Freight New York to Colon to collect	74. 47	
Freight New York to Panama to collect	299. 84	
Uncollected freight New York	17, 102. 47	
British postmaster-general	1, 844. 59	
Accounts collectible, Isthmus agency	27, 005. 33	
Accounts collectible, New York	14, 732. 14	
		\$62, 000. 18

EXHIBIT 15.

Miscellaneous accounts:

Isthmus agency drafts and remittances	\$28, 424. 64	
Advance charges—special account	322. 73	
Unadjusted accounts	4, 562. 87	
Commissary department expenses	20, 747. 07	
Railroad material store expenses	18, 119. 08	
Prepaid freight—Panama to New York	3. 75	
Collections for Isthmus agency	21, 193. 55	
Disbursements for Isthmus agency	62. 81	
Transportation earnings	20, 639. 53	
Repairs to Dredge A, No. 2, and clappets	4, 666. 93	
I. C. C. commissary coupon book receipts	57, 343. 19	
Printing commissary coupon books	6, 809. 33	
Feeding telegraph and telephone gangs	670. 69	
Feeding maintenance of way gangs	2, 640. 93	
Erection of building for C. & S. American Telephone Company	652. 09	
Commissary loss and damage	1, 328. 30	
Temporary refrigerating plant at Colon	12, 371. 21	
Laborers per steamship <i>Advance</i> , May 5, 1905, Inaguans	66. 20	
Erection quarters American Car Company	5. 82	
Operating temporary cold-storage plant	47. 62	
Laborers per <i>Colon</i> , January 20, 1906, Fortune Islanders	635. 91	
		201, 314. 25

EXHIBIT 16.

Unearned insurance and charter of steamers:	
Prepaid insurance on steamers	\$18,621.57

EXHIBIT 17.

General average disbursements:	
Johnson & Higgins	\$91.75
Steamship <i>Finance</i> , case of propeller blades	2,069.31
Steamship <i>Finance</i> , collision account barge <i>Edith</i>	175.00
	<hr/>
	\$2,336.06

EXHIBIT 18.

Bonds drawn for redemption—not presented:	
First mortgage bonds drawn in—	
1904	\$1,072.50
1905	1,072.50
Sinking fund subsidy bonds drawn in—	
1904	1,000.00
1905	19,000.00
	<hr/>
	\$22,145.00

EXHIBIT 19.

Interest accrued on bonds—not due:	
4½ per cent first mortgage bonds—2,272 bonds, from October 1, 1905, to February 28, 1906....	\$42,600.00
6 per cent sinking fund subsidy bonds—535 bonds, from November 1, 1905, to February 28, 1906....	10,660.00
	<hr/>
	\$53,260.00

EXHIBIT 20.

Accrued funds for redemption of bonds:	
First mortgage voluntary sinking fund from August 1, 1905, to February 28, 1906	\$87,500.00
Balance from previous drawing ..	420.36
	<hr/>
	\$87,920.36
Fund for redemption of subsidy bonds from August 16, 1905, to February 28, 1906	121,875.00
Deduct for interest on bonds	10,660.00
	<hr/>
	111,215.00
Balance from previous drawing ..	380.00
	<hr/>
	111,595.00
	<hr/>
	\$199,515.36

EXHIBIT 21.

Interest on bonds due and unpaid:	
First mortgage bonds—	
Coupon No. 13	\$112.50
Coupon No. 14	112.50
Coupon No. 15	1,552.50
Coupon No. 16	1,530.00
Sinking fund subsidy bonds—	
Coupon No. 50	330.00
	<hr/>
	\$3,637.50

EXHIBIT 22.

Steamship and tug replacement fund:

Steamship <i>Allianca</i> , \$154,152.97..	{ Prior January 1, 1906	\$935.83	
	{ 6 per cent, 2 months	1,541.54	
Steamship <i>Finance</i> , \$221,410.39, 6 per cent, 2 months		2,214.10	
Steamship <i>Advance</i> , \$221,186.30, 6 per cent, 2 months		2,211.86	
Tug <i>Bolivar</i> , \$70,001.78..	{ Prior January 1, 1906..	10,755.12	
	{ 10 per cent, 2 months..	1,166.70	
Tug <i>Cristobal</i> , \$57,942.53, 10 per cent, 2 months..		965.70	
Lighters, \$162,999.49, 10 per cent, 2 months.....		2,716.68	
			\$22,507.51

EXHIBIT 23.

Unpaid wages:

Railroad.....	\$8,409.71
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EXHIBIT 24.

Isthmus drafts—not presented:

Issued in 1902 and previous years	\$397.31	
Issued in 1903	427.50	
Issued in 1904	1,340.00	
Issued in 1905	4,696.00	
Issued in 1906	49,019.87	
		\$55,880.68

EXHIBIT 25.

Due to connecting lines:

Pacific Mail Steamship Company.....	\$28,136.19	
Royal Mail Steam Packet Company		
Cie Generale Transatlantique.....		
Leyland Line.....		
Harrison Line.....		
Hamburg-American Packet Company.....		
Cia. Trasatlantica de Barcelona.....		
La Veloce Navigazione Italiana Vapore		
Austro-Americana Steamship Company.....		
United Fruit Company		
Cia. Sud-Americana de Vapores.....	2,303.49	
Pacific Steam Navigation Company.....	17,168.07	
Uncollected freight connecting lines	530.91	
Freight beyond New York.....	369.22	
Passage orders	2,586.29	
Wells, Fargo & Co's Express.....	45.38	
		\$51,139.55

EXHIBIT 26.

Audited vouchers and pay rolls:

Accounts payable New York	\$487,674.40
Accounts payable Isthmus	2,080.92
Laborers per—	
<i>Seguranca</i> , March 3, 1905—Fortune Islanders.	1,320.33
<i>Seguranca</i> , April 24, 1905—Fortune Islanders.	719.06
<i>Alene</i> , October 16, 1905—Fortune Islanders..	3,707.34
<i>Havana</i> , October 31, 1905—Fortune Islanders.	2,889.21
<i>Mexico</i> , November 26, 1905—Fortune Island-ers	396.37
<i>Allianca</i> , November 17, 1905—Fortune Island-ers	2,081.90

Audited vouchers and pay rolls—Continued.

Laborers per—

<i>Finance</i> , November 13, 1905—Fortune Island- ers	\$1, 257. 10	
<i>Finance</i> , December 16, 1905—Fortune Island- ers	99. 18	
<i>Mexico</i> , December 24, 1905—Fortune Island- ers	72. 68	
<i>Allianca</i> , December 9, 1905—Fortune Island- ers	348. 87	
<i>Advance</i> , April 12, 1905—Inagvans	65. 54	
<i>Orizaba</i> , April 19, 1905—Inagvans	97. 29	
<i>Allianca</i> , April 29, 1905—Inagvans	24. 74	
		\$502, 834. 93

EXHIBIT 27.

Miscellaneous accounts:

Prepaid freight San Francisco to New York	\$127. 43	
Panama passenger tax	168. 00	
Colombian tonnage tax	86. 68	
Panama tonnage tax	1, 384. 20	
Freight account S. S. <i>Colon</i> , wrecked	320. 60	
Mail earnings, steamship line	334. 80	
Extra baggage earnings, steamship line	689. 13	
Interest on anticipated payments to Panama Canal Company	514. 33	
Central America to New York, coffee contract	129. 07	
Damaged cargo launch No. 10	301. 75	
Panama Railroad coupon book receipts	4, 881. 45	
Prepaid freight, Colon to New York	4. 00	
Shipment of old iron and steel on <i>Finance</i> 127	1, 188. 75	
Hotel coupon books, I. C. C	15. 00	
Passage orders, Isthmus transit	331. 05	
Machine shops	2, 089. 43	
Individuals and companies	207. 81	
		\$12, 773. 48

TREASURER'S STATEMENT, PANAMA RAILROAD COMPANY.

NEW YORK, April 23, 1906.

For the treasurer.

The cash assets of the company at 10 a. m. this day are as follows:

Cash at banks	\$25, 185. 04	
Deposit with trust companies:		
3 per cent Mercantile Trust Company	280, 000. 00	
3 per cent Mercantile Trust Company, special account	20, 000. 00	
Deposit with Credit Lyonnais, London, as per letters of advice to April 14, 1906, £2,812 0s. 11d., at \$4.85	13, 638. 42	
Loan from I. C. C. for account new equipment and con- struction:		
March 8, 1906	\$160, 000. 00	
March 20, 1906	190, 000. 00	
	350, 000. 00	338, 823. 46

Held in treasury—

100 Panama 6 per cent subsidy bonds.
628 Panama 4½ per cent gold bonds.

S. DEMING,
Assistant Treasurer.

ISTHMIAN CANAL.

COMMITTEE ON INTEROCEANIC CANALS,
UNITED STATES SENATE,
Washington, D. C., Wednesday, April 25, 1906.

The committee met at 10.30 o'clock a. m.

Present: Senators Millard (chairman), Kittredge, Dryden, Ankeny, Morgan, and Taliaferro.

TESTIMONY OF EDWARD A. DRAKE, ESQ.—Continued.

Senator KITTREDGE. How many accounts of expenditures does the railway company keep?

Mr. DRAKE. It keeps full bookkeeping accounts of every item of expenditure, sir.

Senator KITTREDGE. In how many classes are those expenses or accounts kept?

Mr. DRAKE. How are they subdivided?

Senator KITTREDGE. Yes.

Mr. DRAKE. Into operating expenses, general expenses—I turned in to the committee here yesterday, for copying, a copy of our regular accounts, income accounts, our profit and loss account, our operating expense account, and our general expense account; they are subdivided into all the different captions.

Senator KITTREDGE. You have what is called an operating expense account?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. What items are included in that?

Mr. DRAKE. All expenses for operating either the railroad or the steamship line—all expenses incidental to the operation.

Senator KITTREDGE. Are they kept separately?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. That is, the expenses of operation of the railway company are kept separate from the expenses of operation of the steamship company?

Mr. DRAKE. Yes, sir; entirely, sir.

Senator KITTREDGE. Do you have what is called a maintenance fund?

Mr. DRAKE. Yes, sir; we have—maintenance of roadway and maintenance of equipment. That is a subdivision of operating expenses. All the items of that are shown in the monthly summary. We have prepared a monthly summary of the result of the operations of the company, and that shows all subdivisions of accounts.

Senator KITTREDGE. Just what items are included in the maintenance account?

Mr. DRAKE. Generally the keeping up of the property once installed; the property once purchased and installed is thereafter maintained by a maintenance or replacement account.

Senator KITTREDGE. And that is kept separate from your operation account?

Mr. DRAKE. That is a subdivision of operation.

Senator MORGAN. Does that include betterments?

Mr. DRAKE. No, sir. I will state that I have brought these copies of the annual reports from 1896 to 1905 for the committee files, if they want them. This is a complete file.

Senator KITTREDGE. What expenses as applied to the steamships would be kept under the maintenance account?

Mr. DRAKE. All expenses for repairs of steamers that were not structural in their character.

Senator KITTREDGE. What do you mean? Where do you draw the line between "structural" and "repairs?"

Mr. DRAKE. In the case of a steamer once bought, as you may see by the annual reports, the original cost of the steamer, either built or bought, would be charged to capital account as a permanent investment. Thereafter anything that pertained to the repair or replacement of any of the original features of that ship for keeping it in service would be charged to maintenance or operating expenses—indirectly to operating expenses through maintenance. Anything that required a rebuilding of the ship would be charged to its original cost. Anything that pertained to taking out the original beams of a ship, replacing the original decks of a ship, or anything that constituted a practical reconstruction of the ship, would be charged to construction account.

Senator KITTREDGE. Would any item of expense for maintenance be carried in what you termed yesterday your surplus account?

Mr. DRAKE. No, sir; not at all. All of those expenses are absolutely deducted before any net profits are carried. The annual balance sheet of the company shows a charge first to maintenance of steamships, later carried to the general expense of the company. All of that gross expense, of every character, is deducted from gross earnings and the excess of earnings over expenses is then charged with all fixed charges, and the balance will be the net earnings for the year out of which dividends are paid.

Senator KITTREDGE. In your reports are the items of maintenance set forth?

Mr. DRAKE. Absolutely.

Senator KITTREDGE. In some detail?

Mr. DRAKE. Every one, sir—every special item. For instance: For the operation there is set forth every expenditure made for oil, for waste, for food, for wages, for repairs (and they are subdivided into deck repairs and engine repairs), and stewards' expenses. They are all charged to stores; and all repairs to the different departments of the ship—the deck department, the steward's department, the engine department—are charged to repair account.

Senator KITTREDGE. Suppose the ships are refurnished—what would you call that account?

Mr. DRAKE. That would be a replacement merely; it would be a maintenance expense.

Senator KITTREDGE. A maintenance expense?

Mr. DRAKE. A maintenance expense; yes, sir.

Senator KITTREDGE. And would be charged on your books before you would determine the net profit?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. Is that true in all matters of replacement of that sort?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. Have you what is called a betterment account?

Mr. DRAKE. We have an improvement or construction account.

Senator KITTREDGE. In what manner is that kept?

Mr. DRAKE. That is kept as a separate construction account. May I illustrate?

Senator KITTREDGE. Certainly.

Mr. DRAKE. For instance, in the La Boca pier—I only use this as an illustration—all of the items of new construction are first charged to construction account. After that, as I said once before, after the plant is once installed, all the cost of its maintenance is charged to operating expenses. If it is to be reconstructed, if it is to be enlarged, if it is to be permanently altered so that the alteration would extend over a period of years, it would be charged to construction account or betterment account—our improvement or construction account.

Senator KITTREDGE. You spoke of the construction of the La Boca dock, which, as I recollect, cost in excess of \$2,000,000.

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. In what manner was that carried?

Mr. DRAKE. The total cost of that pier, until the construction account was closed, or until it was opened to commerce, at the end of 1900—on January 1, 1901—was charged to construction account. From that time on all expenses were charged to operating expenses.

Senator KITTREDGE. Do you mean, by "construction accounts"—

Mr. DRAKE. I mean capital accounts.

Senator KITTREDGE (continuing). What I had in mind as a betterment account?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. Is there any distinction between the two?

Mr. DRAKE. Well, there is a thin line between construction and betterment. It is a matter of debate each time with an auditor as to what is properly chargeable to betterment or to operating expense, but there is a pretty clear understanding among all railway men and all operating officers as to what is construction.

Senator KITTREDGE. That cost was, as I have stated, in excess of two millions?

Mr. DRAKE. The cost of the La Boca pier? Yes, sir.

Senator KITTREDGE. After it was constructed and ready for operation, in what manner was that account carried?

Mr. DRAKE. The total cost of the La Boca pier was carried to capital account as an increase in the cost of the plant, the cost of road; it enters into the balance sheet of the company.

Senator KITTREDGE. The money was paid from what source?

Mr. DRAKE. The money was paid from the sale of bonds and out of the company's accumulated net earnings.

Senator KITTREDGE. How much of that sum was paid from the sale of bonds and how much from net earnings?

Mr. DRAKE. The proceeds of the sale of 1,087 bonds were devoted directly to the first payment on account of construction. Later, I

think, 962 bonds—I would have to verify that figure—were sold, and the proceeds were carried to construction account. No, sir; one moment. The proceeds of the bonds that had been hypothecated with the Canal Company were sold, and the balance was carried out of net earnings, the accumulated net earnings, to the payment of the cost.

Senator KITTREDGE. How many bonds were hypothecated for that purpose?

Mr. DRAKE. 1,087 bonds, sir.

Senator KITTREDGE. Why was that done?

Mr. DRAKE. The canal company was in operation, or had all the plans for construction. Under its contract of concession from the Republic of Colombia the railroad company was obliged to extend its railroad to deep water in the Bay of Panama. After a good deal of litigation and adjustment we succeeded in having them determine that deep water was at the point where the Rio Grande entered into the Bay of Panama, instead of making us go out some 3 miles or 2½ miles to the islands in the bay. Our object was to avoid the lightering of all cargo from the anchorage up to the terminal at Panama, which was very expensive. It had to be carried around the headland into the bay, and we had to wait on tides; and it delayed the movement of cargo, and was very expensive.

It was decided to construct this pier, and the canal company, being in operation there and having the plant and everything necessary for the work, were employed as contractors to construct it up to a certain point. It was expected that the pier would cost a million of dollars. They began the construction and carried it on. They were given these bonds as collateral until they had expended the whole amount covered by the contract, which was something over \$1,000,000, and they exceeded their expenditure on that account and then declined to go on any further. From that point the company took it up and continued it.

Senator KITTREDGE. In round numbers, about \$1,000,000 was realized from the sale or hypothecation of the bonds?

Mr. DRAKE. From the sale of hypothecated bonds.

Senator KITTREDGE. And the balance was paid from the treasury of the railway company?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. In what manner was that carried after that contract was completed?

Mr. DRAKE. The whole expenditure as made, until the construction account was closed, was carried to construction account.

Senator KITTREDGE. When it was closed, in what manner was it carried?

Mr. DRAKE. It was carried to capital account as cost of plant.

Senator KITTREDGE. State in what manner it was carried in capital account.

Mr. DRAKE. It was carried under the head of a new terminal at La Boca. It appears in the balance sheet of 1901—"New terminal at La Boca, \$1,600,629." That is all that had been expended up to that time.

Senator KITTREDGE. More was expended later?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. When was the final expenditure made?

Mr. DRAKE. I think the total cost of the road was not ascertained. It was absorbed in capital account in the statement of 1902. It dis-

appears as an item then in the balance sheet of the company, and is charged into the total cost of road, real estate and equipment, in the balance sheet of the annual report of 1902. It shows the total cost of the road up to that time as being \$11,986,452.88. The item of new terminal at La Boca as a separate item is merged in that in the year 1902, sir.

Senator KITTREDGE. Are the bonds to the amount of a million dollars which were sold and the proceeds used for the construction of the La Boca wharf or dock now outstanding?

Mr. DRAKE. They are outstanding; yes, sir. They do not expire; they are being drawn annually by the redemption fund. By the terms of the mortgage we are obliged to pay as a fixed charge \$150,000 on the 1st of August of each year to the trustees under the mortgage, who apply that amount of money to the redemption of bonds and the payment of interest on them. They usually draw or buy about 140 each year, and those are redeemed from the outstanding bonds, wherever they may be.

Senator KITTREDGE. And in addition to the bonds which we have just mentioned, bonds to the amount of \$200,000 were issued?

Mr. DRAKE. Ultimately \$265,000; first \$200,000, and then \$265,000; yes, sir.

Senator KITTREDGE. They were issued on account of the repairs to the ships?

Mr. DRAKE. Yes, sir. That does not make \$465,000; that is \$265,000 altogether. First it was \$200,000, and then it was increased.

Senator KITTREDGE. I understand. After those bonds were sold and the settlement made on account of the construction of the dock at La Boca, was the total amount available, according to your theory, to the payment of dividends?

Mr. DRAKE. Yes, sir—not the total amount of the cost; no, sir.

Senator KITTREDGE. How much of it?

Mr. DRAKE. All that had not been received from the sale of bonds.

Senator KITTREDGE. Then, something over \$1,000,000, according to your manner of keeping books, that actually went into the construction of the La Boca dock, was still available to the payment of dividends?

Mr. DRAKE. Absolutely, sir. It is a part of the surplus of the company, and without creating an indebtedness to outsiders was applied to the increase of the plant, of the property; and it had been taken out of the earnings which belonged ordinarily, by distribution of dividends, to the stockholders, and had been applied to construction. If the stockholders had so chosen they could have required that some evidence of that appropriation of earnings be issued to them, as is customary with corporations. It might take the shape of a stock dividend, a scrip dividend, or an increase of the capital funded indebtedness of the company to cover the construction, and the application of the proceeds of such sale—the sale of such funded indebtedness—to dividends.

Senator MORGAN. It could not be a dividend in cash, though?

Mr. DRAKE. It could be made so, sir.

Senator MORGAN. Well, please answer my question?

Mr. DRAKE. Yes, sir.

Senator MORGAN. It could not be a dividend in cash, according to your bookkeeping?

Mr. DRAKE. I can not answer that question, sir.

Senator MORGAN. Why not?

Mr. DRAKE. I can only answer it in one way—that it would have to be converted into cash, the cash having been expended.

Senator MORGAN. Exactly so. It would have to be converted into money before you could distribute it as money?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And it never was converted?

Mr. DRAKE. No, sir; it remains in the property. It is there to-day, and it is there in the improved condition of the property.

Senator MORGAN. It is in the property?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And added to the value of the property?

Mr. DRAKE. Yes, sir; and the stockholders have never had any evidence of it.

Senator MORGAN. I am trying to escape that mythical way of making dividends out of surplus earnings that have been applied and invested in the property itself. That is not, in my judgment, honest.

Mr. DRAKE. Will you allow me to cite a case in answer to that? I think I can explain. All of the insurance companies to-day that have to pay losses from the fire in San Francisco have their surplus invested in different improvements in real estate, in bonds, and in mortgages. Take the Northwestern Insurance Company of Philadelphia, for instance. They have a surplus of \$3,500,000 to-day. That is a surplus accumulated exactly as our surplus was and is earning money for them. In order to pay their losses they will have to convert all of that property into cash to liquidate the indebtedness they owe. Now, their obligation is to their policy holders——

Senator MORGAN. In the case of the Equitable and the New York Life, etc., in New York, the money that is being earned there is not for the stockholders; it is for the directors and the interested parties, as I understand it. Is not that a fact?

Mr. DRAKE. I do not know, sir.

Senator MORGAN. That is what is said.

Mr. DRAKE. Something just as bad is said of us; but it is not the truth.

Senator MORGAN. What is that?

Mr. DRAKE. I say, something just as bad is said of our administration, but it is not our acceptance of it.

Senator MORGAN. I am sorry they have such bad stories in circulation about you. I hope you will clear them all up before you get through.

Mr. DRAKE. All right, sir.

Senator MORGAN. Do you mean to say to this committee that that surplus that you speak of, including the La Boca improvement——

Mr. DRAKE. The part of it that was contributed by the company.

Senator MORGAN (continuing). Was liable to be paid as dividends?

Mr. DRAKE. Yes, sir; absolutely.

Senator MORGAN. But it was not done?

Mr. DRAKE. It was not done.

Senator MORGAN. Why was it not done?

Mr. DRAKE. The conservative policy of the company was not to do it. It was to improve the property. The company started in 1849 with a capital cost of \$7,000,000. The last report that we have made shows a capital expenditure of \$12,028,497, against which there is an

increase of \$2,000,879 only. All of that difference belongs to the stockholders.

Senator MORGAN. When you declared your dividend in 1903 of 8 per cent, you did not have the money to pay it?

Mr. DRAKE. Yes, sir; we did. We have never paid a dividend, during my connection with the company, when we have not had a large excess of cash assets out of which to declare it.

Senator MORGAN. If you had the money, it was the result of selling bonds?

Mr. DRAKE. No, sir; there never was a penny of dividends paid out of the sale of bonds.

Senator MORGAN. Where did it come from?

Mr. DRAKE. It came out of the accumulated net earnings—cash in bank. I will have prepared and submit a statement showing the cash balances in bank right straight along from any time that you designate, and there never was a time when the dividend paid was not paid out of cash assets, current assets, and without the sale of bonds. I say now, and I would like it to go on record, that there never was one penny of money from the sale of bonds applied to the payment of a dividend, except (and I can not point it out; I want to make this reservation) where there may have been some small excess, as in the case of the sale of the additional bonds on the repairs to the *Advance* and *Finance*, where there was a repayment to the earnings of money advanced; for instance, of the \$102,000. That was from the sale of the bonds that were applied to that. I think there was a small excess of \$12,000 or \$15,000 that was applied to the reimbursement of earnings.

Senator MORGAN. So in making that dividend in excess of your net earnings—

Mr. DRAKE. For that year, I would like to say, Mr. Senator.

Senator MORGAN. If you will let me put my question without interrupting me I will be very much obliged to you.

Mr. DRAKE. I will, every time, sir.

Senator MORGAN. When you made that excessive dividend—I mean by “excessive” that it was in excess of the net earnings—you paid it in cash?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And out of the cash assets of the company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you did not have to go into the surplus earnings to get money to pay that dividend?

Mr. DRAKE. No, sir; we draw on the funds in bank.

Senator MORGAN. And left the surplus earnings where they had been put in the improvement of the condition of the property?

Mr. DRAKE. Yes, sir.

Senator MORGAN. But you knew at that time that you were indebted for these steamship repairs?

Mr. DRAKE. Oh, yes, sir. I was asked if I knew. I know, of course, that the company is liable in all stages; a corporation is a continuing affair, and I know that if a man buys a piece of property of me on the 7th of May, for instance, he buys it and takes over all of the obligations that have been entered into before the date on which he takes it over, and has to perform all the obligations of a contract entered into prior to that, as, for instance, compliance with the terms of this contract later on in 1904.

The CHAIRMAN. Mr. Drake, I think if you would answer Senator Morgan's questions more directly we would be able to let you get away a great deal quicker.

Mr. DRAKE. Yes; thank you, sir.

The CHAIRMAN. The Senator is a pretty good judge of all these questions he is asking you, and I think if you will answer him "yes" or "no" it will help you out and it will be more satisfactory to the Senator.

Mr. DRAKE. I will do so, sir.

Senator MORGAN. There has been such a flood of explanation that I get lost in the mazes of it.

Now, Mr. Drake, at the time you paid those dividends in excess of your net earnings for 1903 your board of directors knew that they had created a debt against the company for the repair of these steamers?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And that there were other outstanding debts?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That money in the hands of the company ought to have been reserved, in honesty, for the payment of those debts, ought it not?

Mr. DRAKE. I do not think so, sir.

Senator MORGAN. You do not think so? Well, we differ in opinion about that, and I will let it stand right there.

Senator KITTREDGE. The statement that you have made regarding the La Boca dock construction applies to all construction or betterment accounts?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. And in what manner would the cost of new equipment for the railway company be kept?

Mr. DRAKE. If any equipment were ordered, it would be new, of course. If it was ordered to replace any cars of the number which had originally been put on the road, it would be charged to maintenance. If it was ordered to increase the number of cars on the road, it would be charged to cost of equipment.

Senator KITTREDGE. Would the account, then, of betterment and equipment of that character be carried upon your books precisely as the account of the La Boca dock?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. What is the technical title under which it was kept in your books?

Mr. DRAKE. Cost of new equipment.

Senator KITTREDGE. Do you know the total of that to date, to the present time?

Mr. DRAKE (after examining book). No, sir; I do not.

Senator KITTREDGE. Under your system of keeping books would the amount thus expended be available for dividends—under your theory of bookkeeping, your style of bookkeeping?

Mr. DRAKE. Expended for new equipment, for construction account?

Senator KITTREDGE. Yes.

Mr. DRAKE. No, sir.

Senator KITTREDGE. The amount paid for new equipment?

Mr. DRAKE. No, sir.

Senator KITTREDGE. In what respect do you make a difference

between purchases of that sort and the construction of the La Boca dock, for example?

Mr. DRAKE. If the amount were charged to capital account for new equipment, it would be charged to the cost of road; but it would be taken out of earnings, and would be distributable to that extent, because the new equipment would be susceptible of mortgaging to replace the funds that had been taken out of earnings. It would be an increase in the area of the plant, and the stockholders would be entitled, if they chose, to enforce their right through their board of directors to a representation of that in a distribution.

Senator KITTREDGE. Were any obligations of the railway company issued in payment of new equipment?

Mr. DRAKE. There were no obligations of the railway company issued at all, sir, except the outstanding first-mortgage bonds. I may answer that by saying that there had been no equipment bought until recently. There has been no charge for new equipment, because we have bought no new equipment except the large electrical and steam transporters for the La Boca pier. The cost of that would be charged to capital account.

Senator KITTREDGE. And available for dividends?

Mr. DRAKE. And available for dividends if anything were issued to represent it. The money, having been spent for capital account, can not be disbursed in dividends until it is raised in some way again on an obligation of the company. There have been no such obligations issued but there might be at any time.

Senator KITTREDGE. Your first dividend in 1903 was made about April 1 of that year, as I recollect?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. Can you tell us how much cash you had on hand at that time?

Mr. DRAKE. The cash assets reported to the board of directors at the previous meeting on March 26 were, cash in bank, \$531,339.10 in liquid cash, besides the bonds that were in the treasury.

Senator KITTREDGE. You say "besides the bonds;" what do you mean by that statement?

Mr. DRAKE. I could, if it were necessary, count all of the 6 per cent subsidy bonds that are in the treasury as cash; but I do not. We had \$531,000 in cash in the treasury on the 26th of March.

Senator KITTREDGE. On which you could draw your check?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. And at that time you declared a dividend and paid a dividend to the amount of 2 per cent?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. What was the amount of the obligations of the railway company outstanding at that time that had not been paid, exclusive of first mortgage bonds and subsidy bonds?

Mr. DRAKE. I do not know that I can answer that, sir, without working it up. The last statement I have is the one three months before. The current liabilities (not the contract liabilities—I would have to find out what contracts were in existence at that time) were shown to be only \$76,818.52 by the balance sheet of December 31, 1902.

Senator KITTREDGE. What are included in the item of "current liabilities?"

Mr. DRAKE. Isthmus drafts not presented; coupons not presented; audited vouchers; unclaimed dividends; amounts due deceased or missing employees; and there would be the accretions on all of those items for the succeeding quarter. If you will allow me to supply it, I will be very glad to furnish the committee—and I volunteer this—an exact statement of the current assets and liabilities of the company on each one of the dividend dates. I can have that prepared.

Senator KITTREDGE. I would be glad if you would.

Senator MORGAN. Just state the date of each one of those dividend days again. I was looking for it here, and I do not find it.

Senator KITTREDGE. It is on page 2867, I think, Senator.

Mr. DRAKE. April 2, October 3, and December 10, I think, are the dates in 1903.

Senator KITTREDGE. You spoke of "current liabilities." I suppose that means the cost of operation as well as the items you specifically mentioned?

Mr. DRAKE. Those were all being settled in cost of operation, month by month. January's operations would be settled in January, February, and March.

Senator KITTREDGE. About how much were your monthly expenditures for actual operation during the year 1903?

Mr. DRAKE. The operating expenses month by month were about \$45,000.

Senator KITTREDGE. Does that item include the cost of operation of the steamships as well as the railway?

Mr. DRAKE. No, sir. The operating expenses of the railroad month by month vary from \$62,000 in January to \$80,000 in June. The total operating expenses of the railroad in 1903 are shown to be \$562,240.19 and of the steamship line \$865,503.78.

Senator KITTREDGE. The total is about how much?

Mr. DRAKE. The total is about \$1,400,000, sir.

Senator MORGAN. Mr. Drake, I do not find here the dates of declaring those dividends. Will you please state each date in 1903?

Senator TALIAFERRO. Turn to page 2867, Senator, and see if that is what you want.

Senator KITTREDGE. Down toward the bottom of the page.

Senator MORGAN. I do not find the dates of the declaration.

Senator TALIAFERRO. No; he does not give the dates there. He gives the dividends, but not the dates on which they were declared or paid.

Senator MORGAN. He gives the dividends, but not the dates. It is the dates that I want to get now. I want to get them on the record.

Mr. DRAKE. The first dividend was declared on March 26, at the meeting of the board of directors of March 26, payable on April 3. The next dividend was declared at a meeting of the board of September 24, payable October 1.

Senator MORGAN. Each of those dividends was 2 per cent?

Mr. DRAKE. Yes, sir. The next dividend was declared on December 10, payable on January 1, to stockholders of record on December 28.

Senator MORGAN. The date of the contract with the Cramps for the repairing of those ships was the 30th day of November, 1903?

Mr. DRAKE. The 13th day of November, 1903, sir.

Senator MORGAN. The 13th?

Mr. DRAKE. Yes, sir; is not that it?

Senator MORGAN. No; it is the 30th, the way it reads here. Look there and see. [Exhibiting copy of contract to Mr. Drake.]

Mr. DRAKE. That is the 30th, I think, sir.

Senator MORGAN. Yes—the 30th of November, 1903?

Mr. DRAKE. Yes, sir.

Senator MORGAN. So you did not owe that debt when you made these first two dividends?

Mr. DRAKE. We did not owe it.

Senator MORGAN. You did not owe anything on it or about it; you had not made the contract?

Mr. DRAKE. No, sir.

Senator MORGAN. You had not determined as yet to have the ships repaired?

Mr. DRAKE. No, sir; we had determined to have the ships repaired, but we had not made the contract.

Senator MORGAN. How had you determined it?

Mr. DRAKE. By meetings of the executive committee and board, to determine whether it was advisable to make the repairs.

Senator MORGAN. You had determined to have the ships repaired?

Mr. DRAKE. Yes, sir; and I was authorized to enter into the contract.

Senator MORGAN. With the Cramps?

Mr. DRAKE. With the Cramps; yes, sir.

Senator MORGAN. Before the——

Mr. DRAKE. Before the contract was made.

Senator MORGAN. How long before?

Mr. DRAKE. I have sent for the minute book so as to show all of that, sir.

Senator MORGAN. That is another one of these items that is “hid away in the Lord,” as Joe Smith, the Mormon, used to say. Now, you had cash in hand to pay the first two dividends, amounting to 4 per cent, which were paid in 1904?

Mr. DRAKE. Yes, sir.

Senator MORGAN. When you came to the next dividend did you have the money?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And paid it in money?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Then why was it that you did not take that money and pay it to Cramp?

Mr. DRAKE. The money was not due at that time, sir.

Senator MORGAN. You made advances to Cramp, and in this agreement agreed to make advances to him?

Mr. DRAKE. Yes, sir.

Senator MORGAN. First of bonds, and then, on those bonds, of money.

Mr. DRAKE. Yes, sir.

Senator MORGAN. To lend it to him at what per cent?

Mr. DRAKE. At 3 per cent. The contract recites it.

Senator MORGAN. Yes; he borrowed money from the company at 3 per cent to make those repairs?

Mr. DRAKE. Yes; because we had paid him in bonds from time to time, and he was entitled to the interest on the bonds.

Senator MORGAN. You say you had paid him?

Mr. DRAKE. Yes, sir. The disbursement of the bonds—

Senator MORGAN. You had turned over the bonds to him with an agreement in this contract that you could take them up?

Mr. DRAKE. Yes, sir. We had an option to redeem them if we wanted to.

Senator MORGAN. At all events, you were lending money to Cramp to repair those ships after you made your contract, and yet you voted money to your stockholders out of the cash assets of the company?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Now, why did you not take that money that you voted to your stockholders and pay Cramp, instead of lending him money?

Mr. DRAKE. Because we did not know whether he was going to keep the bonds or not. The repairs to the ships were determined to be structural. The contract provided that at least \$200,000 of the repairs should be paid for with bonds. The contract was made in that way. Ultimately \$226,000 was ascertained to be structural, and it was the intention of the company, under the contract, to disburse bonds in payment of it, and they did so; but as we were anxious or desirous or thought it advisable not to let the bonds get away from us if we could, we compelled him to hold those bonds until a given date.

We did not want him to negotiate them anywhere else, or hypothecate them, or tie them up in any way so that we could not recover them if it was desirable, and our funds were in such shape that we could recover them, so that we insisted that he must hold them. Then he said: "Very well, if I can not borrow money on them with anybody else can you loan us money on them?" I said, "We will be very glad to, at a fair rate of interest;" and he agreed to pay us the rate of interest that we could get on the money if it was deposited in our trust companies, which was 3 per cent, and he did pay us 3 per cent on the amount of cash money that we advanced him.

The statement that I have sent to New York for, in compliance with the request of the committee, will show every item in detail—first, of the delivery of the bonds, then of the loan of cash on account of the bonds, the final completion of the contract and the settlement by the redemption, the taking up of the bonds, and reimbursing him in cash for them at the price covered by the contract. It will show the later sale of the bonds at 104½ and the total proportionate charge to capital account on account of the repairs.

Senator MORGAN. The issue of those bonds created a debt against the company for the full amount?

Mr. DRAKE. Yes, sir.

Senator MORGAN. What was the amount?

Mr. DRAKE. Two hundred and sixty-five thousand dollars.

Senator MORGAN. After creating that debt against the company by the issue of bonds, you still loaned money out of your cash assets to Cramp?

Mr. DRAKE. That sale was not made until later in the year 1904. The bonds were not sold—it was not decided to take them away from Cramp and sell them in the open market until August or September, 1904.

Senator MORGAN. Now, Mr. Drake, you delivered those bonds to Cramp?

Mr. DRAKE. Yes, sir; and they were outstanding.

Senator MORGAN. You had not any right to go and take them back from him?

Mr. DRAKE. No, sir; not until——

Senator MORGAN. And that was a debt against the company while he held them?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you did that in 1903?

Mr. DRAKE. Yes, sir; or whenever we made our first payment. The contract was made in 1903, and we may not have made our first payment until later.

Senator MORGAN. Very good; you did it when your payments were made?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you were thereby creating a debt against the company with every bond you delivered?

Mr. DRAKE. Yes, sir; a capital debt, for capital construction.

Senator TALIAFERRO. And with money in the treasury?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. Which they subsequently paid out in dividends?

Senator MORGAN. You loaned money in the treasury to Cramp?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And you also paid this additional 4 per cent dividend to the stockholders?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. And I understand that under the contract with Cramp the company had the right to pay him money, and not bonds.

Mr. DRAKE. He would have been very glad to have us do it. The contract provided that we might pay him up to \$200,000 in bonds; yes, sir. He would have been very glad to have taken money instead.

Senator TALIAFERRO. I would like to have you answer Senator Morgan's question specifically. If you had the right to pay money, and had the money in the treasury to pay, why was it that you insisted on putting out the bonds of the company, and thereby creating a permanent liability against the road, when you had money that you could have paid and that you subsequently disbursed in dividends?

Mr. DRAKE. Because it was decided that that work, being capital work, should be paid for out of the proceeds of the sale of bonds, and to all intents and purposes the delivery of the bonds to the Cramps was a sale of the bonds.

Senator TALIAFERRO. In other words, the policy of the company was to create a permanent debt against the company, when the company had the money in its treasury to pay what it owed without creating this permanent debt?

Mr. DRAKE. For that particular repair, yes, sir; for that particular operation.

Senator TALIAFERRO. Is not that an unusual policy for corporations to pursue?

Mr. DRAKE. No, sir; not for that character of work.

Senator MORGAN. I beg to say here that according to my judgment and my information and belief there is nothing unusual for a corporation to do. It can do what it wants to. There is nothing unusual.

Senator TALIAFERRO. I do not altogether agree with Senator Morgan on that point.

Senator MORGAN. I think I am right about it.

Senator TALIAFERRO. From my observation of the business policy of corporations, this procedure was an exceedingly unusual one.

Senator MORGAN. I know, of course, that you have had extensive knowledge on that subject and I have had none at all, so I yield to your judgment about it.

I think, Mr. Chairman, that we had better put this contract in the record.

The CHAIRMAN. Very well, sir.

(The contract referred to is as follows:)

This agreement, made at Philadelphia this 30th day of November, 1903, between the Panama Railroad Company, a corporation of the State of New York, of the one part, hereinafter called the "railroad company," and the William Cramp & Sons Ship and Engine Building Company, a corporation of the State of Pennsylvania, of the other part, hereinafter called the "contractor," witnesseth:

First. The contractor undertakes to repair the steamers *Advance* and *Finance*, as hereinafter required, the work to begin immediately after the vessels are delivered at the contractor's works in Philadelphia by the railroad company, insurance to be maintained by the railroad company.

Second. The repairs shall be made under the supervision of the general manager of the railroad company or his representative, part in accordance with the specifications, a copy of which is hereto attached, for the following work on each ship:

A new main deck complete.

A new upper deck with carlins, beams, and plank shear.

A new forecastle deck, plank shear, and buffalo complete.

New houses on main and upper decks, according to plan submitted by the railroad company, complete in all respects except plumbing and steam fitting, which are not included.

Two new pole masts of wood.

Two Scotch boilers for 100 pounds steam pressure, secured in place in the steamers on saddles to be furnished by the railroad company.

The contractor has made proposals on the above work which are hereby accepted by the railroad company, and a copy of the same is attached to this agreement, forming a part hereof, in like manner with said specifications, except as to the price named therein.

All other repairs ordered in writing by the general manager or supervising engineer of the railroad company are to be executed by the contractor and paid for by the railroad company upon accounts rendered for days' work of the several classes of labor and machines, and also for the several kinds of material required, according to a schedule of prices submitted by the contractor, copy of which is attached to this agreement and forms a part hereof.

Third. The contractor is to have a lien upon the vessels, respectively, and their appurtenances for all work done under this agreement, as well as a claim against the Panama Railroad Company.

Fourth. The contractor shall receive and account to the railroad company for all scrap and unused materials taken from the steamships at current market values.

It is also agreed that the contractor's books of accounts, so far as they relate to days' work charges against the railroad company, shall be open to the inspection of the railroad company, and that the railroad company's timekeepers and inspector shall have free access at all proper times to the contractor's works.

Fifth. The railroad company agrees to pay the contractor for the work done under and according to the specifications the sum of one hundred and forty-three thousand two hundred and twenty-two dollars (\$143,222), and for all days' work of men and machines and for all material by them used according to the schedule of prices hereto attached upon work ordered in writing by the general manager or supervising engineer of the railroad company, but the contractor shall not be entitled to compensation, nor the railroad company bound to pay for work not covered by the specifications, unless the order for such work be given in writing, signed by the general manager or supervising engineer of the railroad company.

Sixth. Payment for such repairs shall be made by the railroad company to a total amount not exceeding two hundred thousand dollars (\$200,000) in the $4\frac{1}{2}$ per cent first-mortgage gold bonds of the railroad company, at the price of one hundred and two (102) and interest accrued to date of the delivery of said bonds, respectively, to the contractor, and the contractor agrees to accept said bonds at said price in payment accordingly. Any amount in excess of said sum of \$200,000 payable by the railroad company hereunder shall be paid in cash.

The railroad company shall pay the contractor, as bills are presented from month to month for work done, by delivery of said bonds at the price aforesaid, and from time to time and as bonds shall be so delivered, the railroad company shall lend the contractor cash upon the security of said bonds equal to the value at which said bonds shall be taken by the contractor, as aforesaid, and not exceeding the total amount of one hundred and five thousand dollars (\$105,000) as and when the contractor shall tender the same and request such loan, which said loan shall bear interest at and after the rate of 3 per cent per annum, and shall be repaid on August 1, 1904.

Seventh. The railroad company may, at any time on or before August 1, 1904, purchase any of said bonds so issued to the contractor, as aforesaid, by payment in cash therefor at the rate of 102 and interest accrued to the time of such purchase, and if the contractor shall require the railroad shall, on August 1, 1904, purchase and pay for all of said bonds, or so many of them as the contractor may tender upon that date, at said price.

Eighth. It is understood that the contractor will complete the above-mentioned work within one hundred and ten working days for the first and one hundred and forty working days for the second ship, delays caused by act of God, controversies with the workmen, or by the action of the railroad company, or by fire excepted, the time to begin to run after the ships, respectively, have been delivered at the contractor's yard and have been stripped of all woodwork and cement, the boilers taken out, the present houses removed, and whatever defective hull and iron work may be discovered has been removed and replaced; and the contractor agrees to use every endeavor to complete the entire repairs as quickly as possible within that time.

So soon as the vessel shall be stripped as aforesaid, a survey shall be made by the supervising engineer of the railroad company and some

competent person appointed by the contractor, and specifications shall be prepared of all the work to be done upon said vessels not included in the specifications hereto annexed, and thereupon said surveyors shall estimate and report to the railroad company and the contractor the number of working days required for said work, if any, in excess of the number of days mentioned above, with the above-mentioned exceptions, for each of said ships. If the said surveyors shall not be able to agree as to whether the entire work to be done upon said ships as so determined will require a longer time for each ship than the time above specified, or if they shall not be able to agree upon the additional number of days which will be required for said work, they shall select another competent person to act with them, and the decision of any two of said three surveyors shall be final.

For any delay in the completion of said work beyond the time above specified, or beyond the time so specified and the additional time, if any, allowed by said surveyors, the railroad company may deduct from any sum which will be due the contractor hereunder the amount of one hundred and fifty dollars (\$150) per day for each day delay on each of said ships, which sum is allowed as liquidated damages, and not as a penalty.

In witness whereof, the parties hereunto have caused these presents to be executed and their corporate seals to be hereunto attached, duly attested, the day and year first above written.

PANAMA RAILROAD COMPANY,
By _____.
THE WILLIAM CRAMP & SONS SHIP
AND ENGINE BUILDING COMPANY,
By _____.

New wood upper deck, new wood main deck, new wood masts, complete set wooden houses, new rails, and new boilers; also painting.

Upper deck.—To be entirely new; to be of $\frac{3}{4}$ -inch matched white pine covered with tar felt and No. 4 cotton duck canvas, laid upon an entire new set of beams of 3 by $4\frac{1}{2}$ inch pine; around the coamings of the houses a triangular strip of pine 2 by 2 inches is to be worked, upon which the canvas is to be secured.

Before laying the felt the deck is to be painted with one heavy coat of white lead and oil and the tar felt laid before the paint is set.

The canvas is to be laid athwartships, thoroughly stretched and laid smooth and straight, and secured on all edges with galvanized iron tacks $\frac{3}{4}$ -inch long, spaced about $\frac{3}{4}$ -inch centers, and afterwards to be painted with two coats of boiled linseed oil and two coats of paint of such color as owners may direct.

Plank-sheer.—All around ship, also at forward end of upper deck and aft end of forecastle deck, of 4 by 12 inch yellow pine in long lengths, securely fastened.

Buffalo.—A new buffalo to be furnished and fitted forward, about 52 feet long, 10 by 5 inches at forward end and 6 by 5 inches at after end, fitted with castings to be furnished by owners, same as now on ship.

Forecastle deck.—To be of $3\frac{1}{2}$ by 4 inch yellow pine in long lengths, secured to iron beams with lag screws, and between each iron beam to

a wood beam of 3 by 4½ inch yellow pine, also to be furnished and fitted, to be caulked with one thread of cotton and one thread of oakum and payed off with elastic seam composition.

Deck over well forward.—To be substantially built, to cover the space between end of forecastle deck and end of upper deck, with heavy strongbacks and tie beams in the usual manner.

Upper rail.—To be of three lines of ¾-inch iron pipe, carried through wrought iron or cast steel stanchions 1½ inches diameter at base and 1½ inches diameter at top, and surmounted by a wooden rail of 7 by 3 inch yellow pine in long lengths, secured by screw bolts to solid heads upon stanchions. Stanchions to be about 4 feet centers and well secured to plank sheer, and provision to be made for a removable section on each side of ship at each gangway, at the anchor, and at forward hatch; rail to be 42 inches high from deck to top of same.

Houses.—A full set of houses to be built upon the upper deck of plain matched pine 1½ inches thick in narrow widths with V beading run horizontally outside and vertically inside seven-eighths inch thick, all to be of air-dried and seasoned lumber. Studding to be of 3 by 4 inch pine and set upon coamings of 6 by 10 inch yellow pine in long lengths. Houses to be securely fastened with anchor bolts, and all doors to be of 1½-inch paneled pine, using locks and hinges supplied by owners. The houses to be located as per blueprint sent herewith and to be finished complete with skylights, closets, shelves, lockers, hooks, and everything usual in a ship of this class. Corners of houses to be round and not less than 9-inch radius.

Equipment for lifeboats.—Suitable angle-iron frames, 3 by 4 inches by ½ inch double, are to be placed at each end of six lifeboats, extending across full width of ship, as per plan, and the space under the boats covered with an open deck of 3 by 4 inch pine with 1½-inch space between each plank. Each boat is to be equipped with one set of Mallory type davits spaced about 13 feet centers. Davits to be of 2½ by 4½ inch bar iron and to be fitted with all necessary cleats, ringbolts, and eyebolts, and with suitable steps on oak sole piece on upper deck.

Each boat is also to be fitted with two hinged chocks of white pine and usual pattern.

Main deck.—One complete wood main deck to be furnished and fitted of 3½ by 4 inch yellow pine in long lengths, secured to the deck plating with lag screws, one in each plank at each beam, to be well laid and caulked with one thread cotton and one thread of oakum and payed off with pitch.

Included in the deck work will be securing upon proper sole pieces ten mooring bitts and the laying of about 60-inch wide of thick work under windlass, and suitable coamings for all companion ways and houses between decks.

Houses between decks.—A complete set of houses to be built between decks as per plan herewith. Houses to be built of 1½-inch matched pine lumber outside, worked horizontally, and ¾-inch lumber inside, worked vertically; ceiling inside and out to be V-beaded.

Studding to be 3 by 4 inch pine set upon yellow-pine coamings of 6 by 10 inches, secured to the main-deck plating in a substantial manner.

The houses between decks will include companion way, lockers, racks, closets, shelves, and the usual fittings in a ship of this kind.

Spars.—Two new wood-pole spars about 85 feet above upper deck long 24 inches diameter in the partners, are to be furnished and fitted with all the necessary bands and eyebolts, also band for cargo booms, and stepped and wedged in place; owners to furnish and set up rigging and to furnish band for cargo booms.

Painting.—All new joiner work to have three coats of paint of such colors as owners may direct.

Inside of upper houses to be decorated in white with gold leaf on moulding.

While the vessel is on dry dock for the other repairs the bottom of the ship outside to be thoroughly scaled and painted with two coats of anticorrosive paint and one coat of antifouling paint.

Boilers.—Two return-tube marine boilers, each 10 feet 5 inches long outside.

Each to have:

Three Morrison, suspension, corrugated furnaces of the removable type.

Three combustion chambers.

Grate surface, 67 square feet.

Heating surface, 2,500 square feet.

Built for a working pressure of 100 pounds steam per square inch in accordance with the rule and requirements of the United States Treasury Department. Complete with furnace fittings, grate bars, and bearers, furnace fronts, fitted up for heated forced draft system, with smoke boxes, air-heating boxes, tubes, blowers, and engines, air ducts, uptakes, and double smokestack 7 feet diameter outside and 6 feet inside diameter, and 68 feet long from bottom grate bars.

Boilers to be placed in the ship and secured to foundations furnished by owner ready to receive the steam connections.

Each boiler also to be fitted with 1 spring-loaded pop safety valve, 1 2-inch surface blow valve, 1 2½-inch bottom blow valve, 2 2½-inch combined feed stops and checks, 1 1½-inch drain cock, 1 glass water gauge, 1 water column with 6 gauge cocks, 1 dry pipe, 1 scum pan, 1 internal feed pipe and blowpipe, 3 fusible plugs, 1 main and auxiliary stop valve. Boiler also to be furnished and fitted with all necessary man and hand holes, with covers and strong bucks.

Each boiler also to be furnished and fitted with a steel connection for branch pipe of suitable size.

Detail specification and drawing of boiler to be submitted for approval of company's engineer before the work of construction is commenced.

[Inclosure No. 1, accompanying letter to Mr. Paine, general manager Panama Railroad Company, October 24, 1903.]

CHARGES.

The charges for labor are based upon the regular wage scale paid by us to men for a day of ten hours in shops and outside.

OVERTIME.

A regular night's work begins at 7 p. m. and ends at 6 a. m., with an hour off at midnight for lunch. For this a man is paid the equivalent of twenty hours straight time.

For Sundays and holidays or any other overtime a man is paid the equivalent of two hours straight time for each hour of overtime.

The rates of wages to be charged for the different trades will be in accordance with the following schedule, to which 10 per cent will be added for profit:

	Per day.		Per day.
Anglesmiths	\$3.00	Machinists' helpers	\$1.87
Anglesmiths' helpers	1.87	Painters	3.45
Boiler makers	2.65	Pattern makers	3.00
Boiler makers' helpers	1.87	Pattern makers' helpers	1.87
Blacksmiths	3.00	Electricians	3.00
Blacksmiths' helpers	1.87	Electricians' helpers	1.87
Boltersup	1.87	Punchers	2.10
Calkers (wood)	3.42	Punchers' helpers	1.87
Carpenters	3.42	Coppersmiths	3.52
Carpenters' helpers	2.00	Coppersmiths' helpers	1.87
Calkers (iron)	2.82	Riggers	2.10
Chippers	2.65	Riveters	2.95
Cementers	1.87	Boys	1.30
Draftsmen	3.35	Holder on	1.87
Drillers	1.87	Plumbers	2.90
Fasteners	2.10	Plumbers' helpers	1.87
Ironworkers	2.75	Sheet-iron worker	2.95
Ironworkers' helpers	1.87	Sheet-iron worker helper	1.87
Joiners	3.00	Watchmen	1.87
Joiners' helpers	1.87	Foremen	4.30
Laborers	1.87	Foremen, assistant	3.70
Machinists	2.85	Timekeepers	2.65

Relating to all hand tools used by the above mechanics, there will be no charge made for their use. Our percentage of profit on labor includes same. The following tools, with their rates, are to be charged without any additional percentage for profit.

The charge for the tools also includes a man:

	Per day.		Per day.
Rolls	\$20.00	Lathes, planer, and drilling machines:	
Furnace	20.00	Large	\$9.00
Flange fire	10.00	Medium	7.00
Small forge	7.00	Small	5.00
Large forge	8.00	Bolt cutter	5.50
Punches	8.00	Shapers	5.00
Shears	8.00	Sloters	7.00
Plate planer	8.00	Boring bar	7.50
Radial drill	6.00	Pipe cutters	5.00
Countersink	6.00	Saws, circular and band	6.00
All pneumatic tools	7.40	Air compressor	20.00
		Steam hammers	15.00

All material is to be charged for at net cost to us plus 15 per cent, of which the following are a number of the principal articles:

Dry dock to be charged for at a net rate of 6 cents per gross ton per day, Sunday and legal holidays excepted unless work is done, and no additional percentage to be charged on this item.

Cost of material used in repair work by Kensington Shipyard Company.

Oak.....feet..	\$0.06	Bolts, nuts, washers.....pounds..	\$0.07
Quarter oak.....do....	.08	Red brass castings.....do.....	.20
White pine.....do....	.08	Yellow brass castings.....do....	.17
Yellow pine.....do....	.04	Parsons W. B. metal.....do....	.26
Spruce.....do....	.03	Muntz metal.....do.....	.17
Oregon pine.....do....	.06½	Sheet lead.....do.....	.05
Poplar.....do....	.05½	Lead pipe.....do.....	.05½
Maple.....do....	.03½	Iron castings.....do.....	.03½
Walnut.....do....	.12	Grate bars.....do.....	.02½
Cherry.....do....	.12	Propellers and cylinder castings, iron.....pounds..	.04½
Cedar.....do....	.06½	Fire bricks.....each..	.03½
Ash.....do....	.05½	Fire clay.....barrels..	2.00
White-pine decks.....do....	.10	Iron screws.....gross..	.45
Yellow-pine decks.....do....	.08	Brass screws.....do....	.80
Oregon-pine decks.....do....	.09	Cup spikes.....pounds..	.03½
Larch.....do....	.05	Wrought spikes.....do....	.04½
Lignum-vita.....pounds..	.05	Galvanizing.....do....	.01½
Mahogany.....feet..	.17	Sand.....do.....	.75
Teak.....do....	.22	Cement, Portland.....barrels..	2.20
Molding.....do....	.02	Bluestones, packing.....pounds..	.55
Forge iron and steel.....pounds..	.12½	White gum.....do.....	.42
Steel plate.....do....	.02	Black gum.....do.....	.42
Sheet steel.....do....	.02½	Tucks packing.....do....	.35
Flange steel.....do....	.02½	Square flax packing.....do....	.20
Russia iron.....do....	.12	Asbestos packing.....do....	.35
Tool steel.....do....	.08	Drop forging.....do....	.10
Special steel (tool).....do....	.15	Pure gum.....do.....	.85
Sheet brass.....do....	.20	Waste.....do.....	.05½
Yellow metal.....do....	.16	Lard oil.....gallons..	.71
Sheet copper.....do....	.20½	Linseed oil.....do.....	.45
Red bolt copper.....do....	.28	Boiled oil.....do.....	.65
Galvanized sheet iron.....do....	.03½	Headlight oil.....do....	.11
Wire nails.....do....	.03	Hull rivets.....pounds..	.02½
Cut nails.....do....	.03	Boiler rivets.....do....	.02½
Galvanized cut nails.....do....	.04½	Small rivets.....do....	.05
Galvanized sheath nails.....do....	.12	Taprivets.....do.....	.10
Fender nails.....do....	.07	Copper pipe.....do....	.25
Copper nails.....do....	.28	Color.....do.....	.08
Galvanized boat nails.....do....	.07	Red lead.....do.....	.05½
Wire mold nails.....do....	.06½		
Yellow metal nails.....do....	.16½		
Trunk nails.....do....	.15		
Felt (sheet).....do....	.05½		

THE WILLIAM CRAMP & SONS
SHIP AND ENGINE BUILDING COMPANY,
Philadelphia, November 7, 1903.

MR. CHARLES PAINE,

*General Manager The Panama Railroad Company,
Battery Park, 24 State Street, New York City.*

DEAR SIR: Answering your letter of October 30, 1903, in which you ask us to name our price for doing certain work on the steamers *Advance* and *Finance*, we beg to state that we will undertake to do the work on these two vessels referred to in your above-mentioned letter, all as named in the specifications accompanying the same, with the exception of furnishing and installing the boilers, for the sum of \$49,986 for each ship.

We will undertake to do this work within one hundred and ten working days for the first and one hundred and forty working days for the second ship, after the ships, respectively, have been delivered at our

yard, stripped of all woodwork and cement, the boilers taken out, the present houses removed, and whatever defective hull and iron work discovered is removed and replaced.

Due allowance will be made for scrap at current market rates, depending upon its condition when removed.

Terms of payment to be as agreed upon, in case your order for the work is placed with us.

Our proposal for furnishing the boilers is forwarded by this same mail.

Trusting that we shall receive your order for this work, which will receive our best and prompt attention, we remain,

Yours, very truly,

THE WM. CRAMP & SONS SHIP
AND ENGINE BUILDING COMPANY.
R. W. DAVENPORT, *General Manager*,

THE WILLIAM CRAMP & SONS
SHIP AND ENGINE BUILDING COMPANY,
Philadelphia, November 7, 1903.

MR. CHARLES PAINE,
*General Manager The Panama Railroad Company,
Battery Park Building, 24 State street, New York.*

DEAR SIR: Replying to your inquiry of the 30th ultimo, we offer to make and place in vessels at our wharf four Scotch boilers about 15 feet 3 inches diameter, 10 feet 5 inches long over all, each boiler containing three Morison suspension furnaces 45 inches inside diameter, 6 feet 8½ inches long, of the interchangeable type, three combustion chambers, and about 450 2½-inch diameter tubes 7 feet long; boilers built for a working pressure of 100 pounds per square inch, in accordance with Lloyd's rules and the rules of the United States Treasury Department, and each boiler to have about 2,500 square feet of heating surface and 67 square feet of grate surface, complete with furnace fittings, grate bars and bearers, furnace fronts fitted for heated forced-draft system, smoke boxes, air-heating boxes, and tubes, blowers and engines, air ducts, uptakes, and smokestack, for \$45,250.

Our terms of payment will be one-half of the contract price on the completion of the boilers at our shop ready for installation, and the balance in thirty days after the boilers have been installed, provided the installation is not unduly delayed.

Our price includes furnishing with each boiler one steel branch pipe, one main and auxiliary stop valve, one 5½-inch diameter safety valve, one 2-inch surface blow valve, one 2½-inch bottom blow valve, two 2½-inch combined feed, stop and check valves, one 1½-inch drain cock, one glass water gauge, one water column with six gauge cocks, one steam gauge, one dry pipe, one scum pan, one internal feed pipe and blow pipe, and three fusible plugs. It also includes furnishing with the blowers the steam engine for driving the same and all connections for the hot-air system.

Our price is based on making the four boilers and the parts enumerated complete and installing the same in two vessels, you delivering the vessels at our yard for this purpose.

Our proposal does not cover the cost of any work other than that necessary to secure the boilers and blowers in the vessels on foundations furnished by you, and attaching to the boilers the smoke boxes, upstrokes, stacks, and valves and fittings furnished by us, and also connecting the air ducts to the blowers and boilers.

We could have the first two boilers completed and ready for installation in about three months and the second two boilers in about four months after the report of the order.

Yours, truly,

THE WILLIAM CRAMP & SONS
SHIP AND ENGINE BUILDING Co.,
R. W. DAVENPORT, *General Manager*.

Senator KITTREDGE. As I understand, Mr. Drake, you are to furnish us with the total amount of current liabilities of the company?

Mr. DRAKE. Yes, sir; at each dividend date.

Senator KITTREDGE (continuing). When each dividend was declared?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. You spoke of contract obligations; what do you mean by that?

Mr. DRAKE. I had in mind when I said that this particular contract—this Cramp contract; no others.

Senator KITTREDGE. What contract or contracts were outstanding in March, 1903, when the first dividend of that year was declared?

Mr. DRAKE. No others but this, sir.

Senator KITTREDGE. And what contract or contracts, if any, were outstanding when you ordered the second or September dividend in 1903?

Mr. DRAKE. None, sir.

Senator KITTREDGE. Had you any other contract obligation outstanding when the December, 1903, dividend was declared, except the Cramp contract?

Mr. DRAKE. No, sir; except the contracts for supplies, coal, and that sort of thing.

Senator TALIAFERRO. When was your contract for the construction of the pier disposed of?

Mr. DRAKE. The construction account was closed on December 31, 1901.

Senator KITTREDGE. Can you readily give us the obligations of the character you last mentioned—coal and supplies for the year 1903?

Mr. DRAKE. They are paid for monthly, as delivered. I speak of that because there are contracts covering those matters. We enter into contracts with the coal companies to take from them our requirements in the way of coal, but we pay for it month by month, and it is charged to operating expenses. I only spoke of it because I did not want to be later advised that I had made a mistake as to the contracts. I can give you the amounts.

Senator KITTREDGE. Contracts of that character would come under the item of operating expenses, would they not?

Mr. DRAKE. Yes, sir; purely.

Senator KITTREDGE. And would be called, perhaps, current expenses?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. So that the contracts that you now mention would not be of the character of the Cramps' contract.

Mr. DRAKE. No, sir.

Senator KITTREDGE. How much cash was there in the treasury of the company when the September, 1903, dividend was declared?

Mr. DRAKE. The treasurer's statement, presented at that meeting, showed cash on hand amounting to \$654,237.62.

Senator KITTREDGE. Was all that money in the bank?

Mr. DRAKE. In the banks, yes, sir—banks and trust companies, at interest.

Senator KITTREDGE. And could your check have been drawn against it?

Mr. DRAKE. It was drawn against it for the dividend, sir.

Senator KITTREDGE. I mean for the entire amount?

Mr. DRAKE. Yes, sir; for the entire amount.

Senator KITTREDGE. How much was there on hand in cash in December, 1903?

Mr. DRAKE. Seven hundred and seven thousand five hundred and thirty-five dollars and seventeen cents.

Senator KITTREDGE. In actual cash?

Mr. DRAKE. In actual cash; yes, sir.

Senator KITTREDGE. And \$280,000 was ordered paid December 31 or January 1 for dividends?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. What interest were you getting on your deposits, Mr. Drake?

Mr. DRAKE. The current market interest at the time, 3 per cent— $3\frac{1}{4}$ per cent. Our deposits are with the Farmers' Loan and Trust Company, the Mercantile Trust Company, the United States Trust Company, and the Central Trust Company; and we get 3 per cent— $2\frac{1}{2}$ or 3 per cent.

The CHAIRMAN. That interest varies, does it not, from time to time?

Mr. DRAKE. According to the market rate, whatever they are willing to allow on permanent deposits.

Senator TALIAFERRO. Now, that is the point. Were these permanent deposits?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. Then, how do you state that they were subject to your check?

Mr. DRAKE. I mean by "permanent deposits" deposits that are left there for any time, but subject to draft. When the company wants to draw on any of those deposits, we by courtesy give them a day's notice that we are going to draw to-morrow or the next day for a hundred or two hundred or three hundred thousand dollars, as the case may be; and the money is transferred to the bank on which we draw current checks.

Senator TALIAFERRO. They practically pay you interest on your average deposits?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. On your credited balances?

Mr. DRAKE. Yes, sir; and we keep as little as we can in the banks and as much as we can in the trust companies.

Senator KITTREDGE. What were your net earnings in 1903?

Mr. DRAKE. The absolute net earnings were \$401,068.30.

Senator KITTREDGE. And the dividends declared in that period were \$560,000?

Mr. DRAKE. Yes, sir.

Senator KITTREDGE. An excess of about \$160,000.

Mr. DRAKE. Yes, sir.

Senator MORGAN. The dividends were how much?

Mr. DRAKE. Five hundred and sixty thousand dollars.

Senator TALIAFERRO. And the net earnings \$401,000.

Mr. DRAKE. For the year; yes, sir.

The CHAIRMAN. Mr. Drake, I want to ask you just one question there. In the case of these balances that you have in the trust companies, you have to notify the trust company a day in advance that you are going to draw. You do not draw on the trust company directly, do you? You have the money transferred from the trust company into a regular bank?

Mr. DRAKE. No, sir; we draw directly on them.

The CHAIRMAN. You draw directly on the trust company?

Mr. DRAKE. We draw directly on the trust company. We do not have to notify them. In stringent times they require from some of their depositors five days' notice, or ten days' notice; but we do not do that.

The CHAIRMAN. Then you check on the trust company the same as you would on a national bank?

Mr. DRAKE. We check on the trust company exactly the same as we would on a bank, and deposit the check in our own bank, and it passes through the clearing house.

Senator MORGAN. Mr. Drake, who devised or originated the plan of creating a bonded debt against the company for repairs to ships and paying out money that was in excess of the net earnings of the company for 1903, the net earnings being \$401,068.30, and the dividends being \$560,000? Who devised that plan?

Mr. DRAKE. I did, sir.

Senator MORGAN. Out of your own head?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You are the man responsible for it?

Mr. DRAKE. I am.

Senator MORGAN. You had no consultation with Mr. Cromwell about it?

Mr. DRAKE. Oh, no, sir. That is my own business. That is my operating business.

Senator MORGAN. I do not ask you what your business is. I ask you what you did.

Mr. DRAKE. No, sir; I answered the question "no, sir." I reported what I proposed to do to the executive committee, and my proposition was approved, and under their authority I made the contract. Mr. Cromwell was a member of that committee.

Senator KITTREDGE. It was you, then, that devised the plan of paying out cash dividends to the stockholders and creating a debt against the company by the issue of these bonds?

Mr. DRAKE. I did not answer that, sir, in that way. I did not devise the plan of paying out cash dividends any more than anybody else. I devised the contract with Cramp.

Senator MORGAN. By which you put the company in debt for the amount of those repairs?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Then you did not advise the paying of the cash dividend?

Mr. DRAKE. I participated in the declaration of the cash dividend.

Senator MORGAN. Did you advise it?

Mr. DRAKE. I did not advise it; no, sir. I approved it.

Senator MORGAN. Who did advise it?

Mr. DRAKE. The question was brought up in the executive committee, as shown here. I do not know who advised it, sir.

Senator MORGAN. You do not know?

Mr. DRAKE. No, sir.

Senator MORGAN. You really do not know?

Mr. DRAKE. I do not know that I suggested the declaration of a dividend any more than anybody else, sir. I am not going to take—

Senator MORGAN. Who made the motion?

Mr. DRAKE. I do not know, it does not recite. I can not remember, and it does not recite. It merely says, "Resolved." It may say "upon recommendation." I will turn to the meeting.

Senator MORGAN. Was Mr. Cromwell present at that meeting?

Mr. DRAKE. I will tell you, sir, in one moment. [After examining book.] No, sir; Mr. Cromwell was not present.

Senator MORGAN. He was not present at that meeting at all?

Mr. DRAKE. The members present were Messrs. Simmons—shall I recite them, sir?

Senator MORGAN. I just wanted to know whether or not Mr. Cromwell was there.

Mr. DRAKE. No, sir; he was not there.

Senator MORGAN. Was that the meeting of the board of directors?

Mr. DRAKE. The meeting of the board of directors.

Senator MORGAN. I am talking about the executive committee.

Mr. DRAKE. I can not tell about that until I get the book here, sir.

Senator MORGAN. When you get the book will you tell it?

Mr. DRAKE. Yes, sir; the books will tell it themselves.

Senator MORGAN. And you have no recollection?

Mr. DRAKE. No, sir; not the slightest.

Senator MORGAN. Aside from the book?

Mr. DRAKE. No, sir.

Senator MORGAN. As to who made that motion to pay out a cash dividend when you had just created a great debt against the company of \$265,000?

Mr. DRAKE. It was \$200,000 at that time.

Senator MORGAN. But you had made your plans for expending \$265,000, and had come under an obligation to expend \$265,000?

Mr. DRAKE. Yes, sir.

Senator MORGAN. So it was a debt of \$265,000 that was created against the company; and you did all that work yourself, out of your own head?

Mr. DRAKE. The framing of the contract with the Cramps—yes, sir; I am responsible for that.

Senator MORGAN. But Cromwell drew the papers?

Mr. DRAKE. No, sir; his firm did.

Senator MORGAN. Well, his firm did?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Is he not identified with his firm?

Mr. DRAKE. I do not deal with Mr. Cromwell in matters of that kind at all, sir. I deal with the different members of the firm, according to the departments that they attend to.

Senator MORGAN. Do you say that you have never had any dealings with Mr. Cromwell in regard to matters of that kind?

Mr. DRAKE. Oh, no, sir; I did not say that. I say that I do not deal with Mr. Cromwell about the drawing of papers, the framing of contracts.

Senator MORGAN. I do not ask you what your practices or habits are, but I want to know what you have been doing.

Mr. DRAKE. Yes, sir.

Senator MORGAN. Did you ever confer with Cromwell about all of these different matters, he being a member of the executive committee?

Mr. DRAKE. Why, certainly, sir.

Senator MORGAN. You have?

Mr. DRAKE. In committee and out of committee.

Senator MORGAN. Have you done anything that you did not confer with him about?

Mr. DRAKE. A great deal. There is a great deal that I have done that I have reported to the executive committee that he should have known of if he had been present at the meetings and that he might not have known of because he was not present at the meetings.

Senator MORGAN. And you had not informed him?

Mr. DRAKE. And I might not have informed him; no, sir.

Senator MORGAN. You might have informed him?

Mr. DRAKE. I might not have informed him.

Senator MORGAN. You might not; but did you?

Mr. DRAKE. He knows what is done when he attends the meetings of the committee, and he knows what I want advice upon whenever I go to him for it.

Senator MORGAN. Now, Mr. Drake, was not Mr. Cromwell, in the management of those matters that were transacted by the executive committee, the principal legal man?

Mr. DRAKE. No, sir; he was not.

Senator MORGAN. Was not he the legal counsel of the company?

Mr. DRAKE. He was the counsel.

Senator MORGAN. Was he not giving you advice and legal counsel all the time?

Mr. DRAKE. Whenever he was called upon.

Senator MORGAN. And often when he was not?

Mr. DRAKE. No, sir.

Senator MORGAN. Never? He was very retiring and modest about it, was he?

Mr. DRAKE. I think he is an active member of any board that he is connected with. From my experience I know that he is a very active member of any board he is connected with. We had the benefit of all his experience and knowledge whenever he met with us in committee.

Senator MORGAN. That is my observation here, in this committee—that he is very active.

Mr. DRAKE. I am very glad to indorse it.

Senator MORGAN. You had no conference with him at all about creating this debt against this company?

Mr. DRAKE. No, sir; except in committee—not except in committee.

Senator MORGAN. Did you in committee?

Mr. DRAKE. I must refer to the minutes to see whether he was present at the meetings.

Senator MORGAN. I am referring to your recollection.

Mr. DRAKE. Oh, I do not know, sir.

Senator MORGAN. I want to know what you recollect about it.

Mr. DRAKE. I do not recall.

Senator MORGAN. You have forgotten?

Mr. DRAKE. I have, sir.

Senator MORGAN. It was a pretty important matter, Mr. Drake.

Mr. DRAKE. Yes, sir; but not more important than many matters that I had to deal with. I was the executive officer of the company.

Senator MORGAN. But you have not forgotten anything else that you have named here yet. You have been remarkably——

Mr. DRAKE. I beg your pardon, sir; you have not asked me before whether I had consulted Mr. Cromwell about other matters.

Senator MORGAN. No; I never asked you before, but I ask you now. Now, Mr. Drake, how did Mr. Cromwell get in possession of sufficient information to enable him to draw that contract between the Cramps and the railroad company without your conferring with him?

Mr. DRAKE. By my first devising the contract, the plan of contract; by my first getting authority from the executive committee, at which he may have been present—the minutes will show—and getting authority to make that contract, and then going to his office and consulting with the partner of the firm who attends to the drawing of all of the contracts that we enter into, and finally getting it in a satisfactory form to meet the plan which I had outlined.

Senator MORGAN. Was Mr. Cromwell in ignorance of all these facts when that contract was drawn?

Mr. DRAKE. He might very well have been, sir. I do not know.

Senator MORGAN. But was he?

Mr. DRAKE. I do not know, sir. He might have been out of the country. I do not know that he was here then.

Senator MORGAN. You do not remember about that?

Mr. DRAKE. I do not, sir.

Senator MORGAN. When you had put the company in debt for that \$265,000, did you then expect to declare a dividend out of the cash assets?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You did?

Mr. DRAKE. We had resumed the policy of declaring dividends from time to time, and we were liable to declare one at any time that we had sufficient funds in hand to do it.

Senator MORGAN. You say you had resumed that policy?

Mr. DRAKE. Yes, sir.

Senator MORGAN. When had you given it up?

Mr. DRAKE. Temporarily, between 1896 and 1901. We did not declare any dividends during that time.

Senator MORGAN. Why not?

Mr. DRAKE. Because we were engaged in a very severe freight war with the Pacific Mail Steamship Company; because we were constructing the La Boca pier, that absorbed all of our ready assets; and because it was a very disturbed freight period. It was the policy of the company for those reasons to keep in a very conservative, strong condition; and we did it.

Senator MORGAN. You say you were constructing the La Boca pier?

Mr. DRAKE. Yes, sir.

Senator MORGAN. The company was doing that?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Was not the canal company doing that?

Mr. DRAKE. No, sir.

Senator MORGAN. You went into debt to them for a million of dollars on account of that pier?

Mr. DRAKE. Yes, sir.

Senator MORGAN. How many years' credit did you have on that?

Mr. DRAKE. They began the construction in 1897, and it was all paid up in 1902.

Senator MORGAN. I did not ask you that. I asked you how many years' credit you had on that contract. You have already sworn to that heretofore, and I have it in the books, and I want to see if you will state it again.

Mr. DRAKE. Yes, sir. I do not know how to answer your question differently. It was a continuing indebtedness until it was settled.

Senator MORGAN. When you were representing the value of this railroad to this Senate, to this committee, and showing its admirable situation, etc., you mentioned a debt of a million of dollars.

Mr. DRAKE. Yes, sir.

Senator MORGAN. And that you had five years within which to pay it.

Mr. DRAKE. Yes, sir.

Senator MORGAN. Is that a fact?

Mr. DRAKE. Yes, sir. We did pay it.

Senator MORGAN. Then why did you not state it just now?

Mr. DRAKE. Because I did not understand the question in that way, sir.

Senator MORGAN. So that that La Boca contract was not the one that was pressing you at the time you made this arrangement for having these ships repaired or made that cash dividend?

Mr. DRAKE. Oh, no, sir.

Senator MORGAN. You had gotten through with that?

Mr. DRAKE. Oh, entirely.

Senator MORGAN. Entirely through with that. Then why do you put that up as an excuse here for using the money of the company in paying out dividends?

Mr. DRAKE. I have not, sir.

Senator MORGAN. I so understood you. You said the company had abandoned the idea of yearly declarations of dividends, and had resumed the practice of declaring them along through the year.

Mr. DRAKE. I said that we had paid no dividends from 1896 to 1901. I was asked why we had not declared any dividends during that time, and I stated what the pressing obligations on the company were at that time up to 1901.

Senator MORGAN. And one of them was the La Boca contract?

Mr. DRAKE. And one of them was the La Boca contract, which was finally settled and out of the way by 1902.

Senator MORGAN. And you had five years' credit on it?

Mr. DRAKE. Five years from the day of the contract, which was in 1897.

Senator MORGAN. Yes. Now, at what date did you resume the practice of paying dividends along through the year?

Mr. DRAKE. We paid a dividend in 1901, a dividend in 1902, and three dividends in 1903.

Senator MORGAN. Yes. Was the dividend of 1902 paid at the end of the year?

Mr. DRAKE. I had a list made out of the dates of the payments of all of these dividends, but I mislaid it, and I am very sorry to detain the committee to look each time. [After examining book.] The dividend was paid on May 22, 1902.

Senator MORGAN. 1902?

Mr. DRAKE. 1902, sir—May 22, 1902.

Senator MORGAN. When was it declared?

Mr. DRAKE. It was declared on May 22, and made payable on June 5.

Senator MORGAN. Of what year?

Mr. DRAKE. 1902, sir.

Senator MORGAN. It was declared in 1902?

Mr. DRAKE. Yes, sir.

Senator MORGAN. I thought you said it was paid in April.

Mr. DRAKE. You asked me if the dividend of 1902 was paid at the end of the year, and I said I would look, sir; and I have just looked, and I see that the dividend of 1902 was paid June 5, and was declared May 22.

Senator MORGAN. 1902?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That was before the year had expired?

Mr. DRAKE. Yes, sir.

Senator MORGAN. How was it 1901?

Mr. DRAKE. In 1901? I think the dividend was much earlier in 1901. (After examining book.) A dividend was declared on February 28.

Senator MORGAN. The dividend was declared on February 28 and paid in March?

Mr. DRAKE. No, sir; the recommendation of the executive committee of February 28 was approved at a meeting of March 14, and the dividend was paid on that day.

Senator MORGAN. That, now, was for the year that would end in December, 1901?

Mr. DRAKE. It was paid during the year 1901.

Senator MORGAN. Was that a dividend for the current year that you paid there in March, or was it for the previous year?

Mr. DRAKE. No, sir; it was declared then; it was declared out of the accumulated earnings then. The dividend was in 1901. It was not for any specific time nor for any current year; it was a special dividend of 2 per cent.

Senator MORGAN. Paid out of the earnings of the previous year or the current year?

Mr. DRAKE. Out of the accumulated earnings, sir; not of any year.

Senator MORGAN. Out of the accumulated earnings?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Were those accumulated earnings in cash, Mr. Drake?

Mr. DRAKE. Will you allow me to correct that, Senator?

Senator MORGAN. Yes.

Mr. DRAKE. What I was reading at the meeting of the 14th was an amendment of the action had at a previous meeting of the board. I think, now, I ought to read exactly what it says. At the meeting of March 14, "upon motion, duly seconded, the resolution of the board of directors at its meeting of February 28, in re dividend, was amended by the insertion of the word 'special' before the word 'dividend,' thus making the same read:

"*Resolved*, That a special dividend of 2 per cent be, and is hereby declared this day,' etc."

That is the amendment of the original resolution offered at the meeting of February 28. At that meeting "The president brought to the attention of the board the recommendation adopted by the executive committee at its meeting of February 21 regarding the declaration of a dividend, whereupon it was—

"*Resolved*, That a special dividend of 2 per cent be, and is hereby declared this day upon the capital stock of the company, payable on Monday, March 25, 1901, to stockholders of record, or their legal representatives, on that day."

Senator MORGAN. Was that the first special dividend you ever declared?

Mr. DRAKE. Yes, sir; I think so.

Senator MORGAN. That was the first special one you ever declared?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Was that special dividend that you have just mentioned the only dividend that was paid for 1901?

Mr. DRAKE. Yes, sir.

Senator MORGAN. That was 2 per cent?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Now, we will get over to 1902. State to the committee what dividends were paid in 1902, and when they were declared.

Mr. DRAKE. At the meeting of the board of May 22, the following resolution was adopted:

"That a dividend of 2 per cent upon the capital stock of the company, payable on June 5 to stockholders of record, be, and the same is hereby, declared, and that for that purpose the transfer books be closed on June 2 and reopened on June 9."

Senator MORGAN. Was that the only dividend paid in 1902?

Mr. DRAKE. I think it was, but I will verify it. (After examining book). No, sir; August 28—"Upon motion, duly seconded, the recommendation"—

Senator TALIAFERRO. Read the recommendation.

Mr. DRAKE. I am trying to find it. [Reading.] "Extracts from the minutes of the several meetings of the executive committee held August 15, 19, 22, and 26 were read as an explicit statement of all action had since the last meeting of the board. Previous to the approval by the board of the action indicated in these minutes, consideration was had of the recommendation of the executive committee, adopted at its meeting of August 26, regarding the declaration of a dividend. Upon motion, duly seconded, the recommendation therein contained was unanimously adopted, and a dividend of 2 per cent upon the capital stock of the company was declared, payable on September 5, 1902, the books to be closed on September 2 and reopened on September 5."

Senator TALIAFERRO. When was the next dividend paid after that?

Senator MORGAN. That is 4 per cent for 1902.

Mr. DRAKE. That is all in 1902, sir. The next dividend was declared at the meeting of March 26.

Senator TALIAFERRO. Of what year?

Mr. DRAKE. 1903, sir.

Senator TALIAFERRO. Now read that.

Mr. DRAKE. "The president brought up for the consideration of the board the recommendation of the executive committee, adopted at its meeting of March 13, that a further dividend of 2 per cent upon the capital stock of the company be declared, and, upon motion duly seconded, it was unanimously—

"*Resolved*, That the recommendation of the executive committee, adopted at its meeting of March 13, that a further dividend of 2 per cent be declared out of the net earnings of the company for the year 1902, is approved and adopted; and further

"*Resolved*, That such dividend be made payable on April 3, 1903, to stockholders of record on April 1, the date of closing the books for the purpose of the annual election."

Senator TALIAFERRO. Was that resolution amended subsequently?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. Look over the minutes of the next meeting and see if it was not amended by inserting the word "special."

Mr. DRAKE. The next meeting after that meeting? [After examining book.] No, sir.

Senator TALIAFERRO. When was the next dividend declared?

Mr. DRAKE. At the meeting of September 24.

Senator MORGAN. Of what year?

Mr. DRAKE. 1903. "Consideration was had of the action of the executive committee at its meeting of the 22d instant, recommending that a dividend of 2 per cent on the capital stock be declared; and, upon motion, duly seconded, it was unanimously—

"*Resolved*, That a dividend of 2 per cent upon the capital stock of this company be, and the same is hereby, declared payable October 1, 1903, to stockholders of record on September 28, and for that purpose the books be closed on September 28 and reopened on October 3."

Senator TALIAFERRO. Was that resolution amended?

Mr. DRAKE. No, sir. The next meeting was on December 10, 1903.

Senator TALIAFERRO. Just read that again, Mr. Drake. You read it before, but I would like to hear it again. It may have been omitted from the record.

Mr. DRAKE. "Extracts from the minutes of the several meetings of the executive and finance committee held November 27 and December 1, 4, and 8 were read as an explicit statement of all action had since the last meeting of the board. Reference was had to the recommendation of the executive committee, adopted at its meeting of the 8th instant, that a dividend of 4 per cent on the capital stock of the company be declared; and upon motion, duly seconded, the following resolution was unanimously adopted:

"*Resolved*, That a dividend of 4 per cent upon the capital stock of the company is hereby declared, out of the net earnings of the company, payable January 1, 1904, to stockholders of record on December 28, 1903, and that for that purpose the books of the company be closed on December 28, 1903, and reopened January 2, 1904."

Senator TALIAFERRO. Was that resolution amended?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. You read from the minutes a moment ago that the resolution authorizing the payment of a dividend had been amended by inserting the word "special."

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. What dividend was that?

Mr. DRAKE. That was the dividend of 1901, I think. [After examining book.] That was the dividend declared at the meeting of February 28, 1901.

Senator TALIAFERRO. Read that again.

Mr. DRAKE. "*Resolved*, That a special dividend of 2 per cent be, and is hereby, declared this day upon the capital stock of the company, payable on Monday, March 25, 1901, to stockholders of record, or their legal representatives, on that day."

Senator TALIAFERRO. Why was the word "special" put in that resolution in 1901 and omitted in 1903?

Mr. DRAKE. I do not recall, Senator. I do not remember. I will endeavor to find out.

Senator MORGAN. You will have to ask Mr. Cromwell, will you not, in order to find out?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. You had no fixed dividends?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. You declared dividends as the company felt able to distribute the money and the stockholders desired it?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. Does it not strike you as peculiar that the word "special" is inserted there?

Mr. DRAKE. There must have been some reason for it, sir, and I ought to remember it, but I do not.

Senator MORGAN. Do you recollect the date of the passage of the Spooner law?

Mr. DRAKE. No, sir.

Senator MORGAN. Was it the 30th day of June?

Senator KITTREDGE. It was approved the 28th day of June, 1902.

Senator MORGAN. 1902—yes. I want to put that down. Do you recollect the date of the conclusion of the Hay-Concha treaty?

Mr. DRAKE. No, sir. I am very forgetful as to dates now. I have become so. I used to remember all of them, but I can not now.

Senator MORGAN. Do you recollect the date of the signing of the Hay-Concha treaty?

Senator TALIAFERRO. The Hay-Concha treaty?

Senator MORGAN. Yes.

Senator KITTREDGE. That was ratified by the Senate in December, 1901. I am unable to give the date of its negotiation.

Senator MORGAN. Have you a copy of it there?

(Senator Kittredge handed a pamphlet to Senator Morgan.)

Senator MORGAN. No; this is the Pauncefote treaty. I did not say "Pauncefote;" I said "Concha." That afterwards became the Hay-Herran treaty. Do you recollect the date of that?

Senator KITTREDGE. That was negotiated in January, 1903, and was ratified in March, 1903.

Senator MORGAN. Yes.

Senator TALIAFERRO. Was not this dividend of December, 1903, essentially a special dividend?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. Where two had already been declared previously in that year?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. Could not the word "special" have been more appropriately used, as far as you know now, in connection with a third dividend within a year, than in the case of the dividend of 1901, where only one dividend had preceded it?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. You think not?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. Will you let the committee know, Mr. Drake, why that word "special" was used in connection with that dividend and omitted in the others?

Mr. DRAKE. Yes, sir. If I write a letter, will that be sufficient?

Senator TALIAFERRO. That will be sufficient.

Senator MORGAN. Before the passage of the Spooner law Mr. Hay had negotiated with Mr. Concha, the minister from Colombia, a treaty which was to become operative, according to a note from the President, whenever Congress passed upon the subject and authorized the adoption of such a treaty or one equivalent to it. That was some time between the date of the passage of the Spooner law and the 1st of January of the same year. I will get the date and put the treaty in the record.

I will state to the committee, and in Mr. Drake's hearing, that my belief is that as soon as ever the consent of Congress had been acquired, as manifested in that treaty, to a sale of the property of the canal company to the United States, that principle being established by the consent of Colombia, this company commenced to rob its treasury for the purpose of having as small an amount of money and assets on hand as possible fall into the hands of the United States whenever they got the possession of the property; and that these different dividends were carrying out that exploitation, robbing themselves of all cash assets that were possible on every occasion and under every excuse, in order that the railroad property, when it was turned over to the United States, should be depleted below its actual value.

Senator KITTREDGE. Is the treaty to which you refer the one between this Government and the Republic of Colombia?

Mr. DRAKE. Yes, sir; executed by Concha, minister.

Senator KITTREDGE. That was negotiated January 22, 1903, as I recollect. I know it was in January, 1903, and was ratified—

Senator MORGAN. That treaty was before the passage of the Spooner Act.

Senator KITTREDGE. With the Republic of Colombia?

Senator MORGAN. Yes, sir; shortly before—within a month or two.

Senator KITTREDGE. Of course I am giving simply my recollection.

Senator MORGAN. Well, I know about it; I will get the treaty and put it in the record.

Senator KITTREDGE. I have asked the clerk of the committee to get that instrument.

Senator MORGAN. It is here in various prints; it has been printed several times.

Senator TALIAFERRO. Referring to that dividend of 1901, in which the word "special" was employed, will you look in your minutes and

see if, in declaring the preceding dividend, the word "special" was used?

Mr. DRAKE (after examining book). How far back would you like me to go?

Senator TALIAFERRO. Just go through that period when you were not paying dividends.

Mr. DRAKE. I am going through that period. The dividend of 1901 was the first dividend that we paid, sir, for a considerable period.

Senator TALIAFERRO. See if the word "special" was used in the second dividend of 1901.

Mr. DRAKE. There was no second dividend, I think, sir.

Senator TALIAFERRO. That was the only one declared in 1901?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. Was the word "special" used in the first dividend in 1902?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. It was not used after that?

Mr. DRAKE. No, sir.

Senator TALIAFERRO. Do you know whether it was used prior to the dividend of 1901?

Mr. DRAKE. I do not recall that it ever was; I do not know that it ever was, sir.

Senator TALIAFERRO. Will you look through the book at the recess hour?

Mr. DRAKE. I will, carefully, sir.

Senator TALIAFERRO. And let us know at the afternoon hearing, if you please?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. You have been connected with the railroad company since 1888, I think you said, Mr. Drake?

Mr. DRAKE. Yes, sir; in different capacities.

Senator TALIAFERRO. What has been the market value of the stock?

Mr. DRAKE. It never has had any market value, sir—a mere nominal value, because there has only been a small amount of stock outstanding.

Senator TALIAFERRO. Have you ever known of any sales of the stock?

Mr. DRAKE. Yes, sir; at times there have been small sales. I have known of sales of one or two shares at 65 and at 75. There was a broker in New York by the name of John B. Manning who used to buy up lots of stock. We used to send anybody that had single shares to sell to him, and he would buy them as cheaply as he could. He would pay in the neighborhood of 65 or 70 or 85.

Senator TALIAFERRO. How lately have you known of sales of the stock; down to what period?

Mr. DRAKE. Do you mean public sales?

Senator TALIAFERRO. Any kind of sales.

Mr. DRAKE. The last transactions that were made in the stock were when all of the minority stock was bought up.

Senator TALIAFERRO. I mean exclusive of that.

Mr. DRAKE. Oh, well, exclusive of that, I think within a period of six months before that time there were single sales, sales of one or two shares; something like that.

Senator TALIAFERRO. At not to exceed 65 cents on the dollar?

Mr. DRAKE. At not to exceed 65 to 80. There was no market value; it was whatever he would pay for it.

Senator TALIAFERRO. Do you know of a sale at 80?

Mr. DRAKE. No, sir; not definitely.

Senator TALIAFERRO. Why do you name that figure then?

Mr. DRAKE. Because I have an impression that Manning did buy stock as high as that; but it is only an impression, sir.

Senator TALIAFERRO. What is the highest price at which you have known the stock to sell?

Mr. DRAKE. Seventy-five.

Senator TALIAFERRO. You have known of a sale at 75?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. And you are prepared, on that knowledge, to state to the committee, I presume, that 75 was the maximum market value of this stock prior to the purchase of this French property by the United States Government?

Mr. DRAKE. No, sir; not at all. May I enlarge just a little on that?

Senator TALIAFERRO. Certainly, certainly.

Mr. DRAKE. I do not want to be discursive. I had been a stock broker and banker for twenty-seven years or thirty years before I came to the Panama Railroad Company, and the opinion that I express now is that that was all that the minority stock was worth in the market. It was no object to anybody to buy up the few odd shares that were offered for sale.

Senator TALIAFERRO. I would just as soon have the statement in that form, Mr. Drake. Then you would state to the committee that the maximum value of the minority stock was not to exceed 75 cents on the dollar.

Mr. DRAKE. That was all that could be obtained for it.

Senator TALIAFERRO. The market value—that is all.

Mr. DRAKE. Mr. Chairman, I would like to say, if I may, that if it is possible I would like to get to New York this afternoon. There are matters of very important business there.

The CHAIRMAN. Yes; I think the committee will get along with you as rapidly as possible. I presume Senator Morgan wishes to ask you some further questions. You have not finished, have you?

Senator MORGAN. No; I have not. The country and the Senate are pressing upon us for a report upon these questions, and I want to get the evidence before the committee.

The CHAIRMAN. I understand that, Senator; I simply did not know how far you wished to go.

Senator TALIAFERRO. I would like to ask one more question while Senator Morgan is getting ready, Mr. Drake. What official position in the Panama Railroad Company did you hold prior to the purchase of that property and the canal property by this Government?

Mr. DRAKE. I held every position but that of president, sir. I have been assistant secretary and secretary, and secretary and assistant general manager, and vice-president and secretary, and second vice-president and secretary.

Senator TALIAFERRO. So that you are thoroughly familiar with the affairs of the company?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. And you had been a stock broker for twenty or thirty years prior to your coming to the Panama Railway Company?

Mr. DRAKE. Yes, sir. I left Wall street to come there.

Senator TALIAFERRO. So that you were thoroughly familiar with the stock market?

Mr. DRAKE. Oh, entirely, sir.

Senator TALIAFERRO. And if any of this stock had been bringing a higher price than that, you would in all probability have known about it?

Mr. DRAKE. Oh, yes, sir. The stock of the Panama Railroad Company was stricken from the list of the Stock Exchange a good many years ago under its policy. When the bulk of the stock of a company passes into the ownership of one interest, and leaves only a minority in the hands of the public, they suspend official dealings in that stock to prevent people being caught in large transactions that they could not fulfill without there being available stock to make deliveries of. The stock of the Panama Railroad was stricken from the official list of the exchange a great many years ago, and what I know of the stock is in the outside market.

Senator TALIAFERRO. So that your knowledge of it may be termed expert?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. Now, Mr. Drake, when you conceived and put into operation this plan of contracting with the Cramps to repair these ships and to create a permanent interest-bearing obligation against this railway company, what were the surplus earnings of the company? What was the amount standing to the credit of surplus account?

Senator MORGAN. Do you mean in money or in betterments?

Senator TALIAFERRO. I mean in surplus—whatever the surplus may represent.

Senator MORGAN. Yes.

Senator TALIAFERRO. The net surplus.

(At the request of the witness, the pending question was read aloud to him by the stenographer.)

Mr. DRAKE. On December 31, immediately after the date of the contract—the contract was dated November 30—the balance of assets over liabilities on December 31, 1903, is shown by the annual report to be \$4,191,929.91.

Senator TALIAFERRO. And what was the amount of cash in the banks and on hand?

Mr. DRAKE. On what date shall I give you that?

Senator TALIAFERRO. That date.

Mr. DRAKE. December 31?

Senator TALIAFERRO. Yes.

Mr. DRAKE. The amount of cash on hand December 24, 1903—that is the last meeting of the board of which I have the report—was \$719,039.96.

Senator TALIAFERRO. So that with over four millions of net earnings standing to the credit of your surplus account and with over \$700,000 cash in hand you recommended the creation of this permanent interest-bearing obligation against this company rather than paying the Cramps in cash?

Mr. DRAKE. Yes, sir.

Senator TALIAFERRO. Those are the facts?

Mr. DRAKE. Yes, sir; for the reasons previously stated.

Senator TALIAFERRO. What was the account that you depleted in making certain cash payments to the Cramps?

Mr. DRAKE. It was a depreciation account which had been established by a charge to operating expenses from time to time during the time the steamers were deteriorating. We had made a credit to a depreciation fund, which had accumulated at that time up to \$102,000. Some time prior to that the fund was suspended, because we thought the market value of the steamers was in excess of the way they stood on the books. The depreciation fund had carried them down to less than their current market value; so the depreciation account was suspended, and the balance remained to the credit of that depreciation fund, and was drawing interest in the trust company.

Senator TALIAFERRO. And you used that in repairing the ships because you thought that the repairs would so improve the ships as to take the place of that fund to the credit of that account?

Mr. DRAKE. A part of the work that was done on the ships was properly chargeably to operating expenses. Only \$226,000 of it was charged to capital account. A certain percentage of the repairs were structural in their character. Two hundred and sixty-five thousand dollars was the total that the bonds were sold for.

Senator MORGAN. I will proceed now, Mr. Drake, by calling your attention to page 246 of your former examination, in which you described the condition of the stock that Mr. Taliaferro is alluding to. I will just read what you stated, and put it in the record here. (Reading:)

“Senator KITTREDGE. Who are the stockholders outside, in addition to the Panama Canal Company?

“Mr. DRAKE. There are 39 stockholders in the United States. The list of the stockholders is filed with the Isthmian Canal Commission. I apologize for not bringing it here. I had no idea it would be required, but there are 39 stockholders in the United States and 17 in France and England, in addition to the holdings of the canal company.

“Senator KITTREDGE. You say Mr. Cromwell is a stockholder?

“Mr. DRAKE. Yes.

“Senator KITTREDGE. The list you mention will give his holdings?

“Mr. DRAKE. Yes.

“Senator KITTREDGE. And those of the others?

“Mr. DRAKE. Yes. I can supply that if it is required.

“Senator KITTREDGE. I wish you would.

“Mr. DRAKE. It is of record with the Commission, but I will furnish it.”

Then follows, from what I suppose you furnished subsequently, a statement on page 247 of a list of all the stockholders, with the residence of each one, and the number of shares of stock held by each one, which footed up 70,000 shares.

Mr. DRAKE. Yes, sir.

Senator MORGAN. That was all the stock of the company. I will insert that list here without reading it. I wish to call attention, though, to one or two statements in it.

(The complete list referred to is as follows:)

List of stockholders of Panama Railroad Company.

Name.	Address.	Number of shares.
Boyard, Xavier	24 State street, New York	1
Brown, Vernon H.	29 Broadway, New York	1
Cahen, Rudolph T., Marquis de Torre Alfina	26 Exchange place, New York, care of L. Von Hoffman & Co.	10
Cahen, Ugo	do	10
Chesebrough, Robert A.	17 State street, New York	1
Comstock, C. B.	34 West Twenty-fifth street, New York	1
Coudert, Chas.	71 Broadway, New York	1
Cromwell, Wm. Nelson	49 Wall street, New York	31
D'Anvers, Albert Cahen	26 Exchange place, New York, care of L. Von Hoffman & Co.	20
D'Anvers, Louis Cahen	do	20
D'Espeyran, Felix Guillaume Sabatier	9 Rond Point des Champs Elysees, Paris, France.	25
D'Espeyran, Mme. L. C. C. de Barrois d'Orgesval Sabatier.	do	24
De Lesser, A. L. F. B. C.	Care Mallet Freres & Co., Paris	23
De Lesser, A. R. A. C.	do	23
Dinsmore, W. B.	59 Broadway, New York	1
Drake, E. A.	24 State street, New York	1
Einsiedler, Charles	27 Williams street, New York	1
Escott, Rev. Edward Sweet, and Cox, Henry Fisher.	The Red Cottage, Lyme Regis, England	57
Felton, Samuel F.	Monadnock Building, Chicago, Ill.	1
Franklin, Wm. B.	Hartford, Conn.	1
Galloway, Robert M.	42 Wall street, New York	1
Garr, George	14 West Forty-fifth street, New York	1
Gates, I. E.	35 Wall street, New York	106
Gautron, Jean Pierre, liquidateur	Paris, France	68,594
Gebhard, Wm. H.	New York, N. Y.	10
Gordon, Jas. R.	112 Wall street, care of Czarnikow, McDougall & Co.	70
Haines, Augustus Montague	45 Wall street, New York, care of J. Kennedy Tod & Co.	18
Hopkins, A. Lawrence	Williamstown, Mass.	1
Hutin, Maurice	Paris, France	12
Hudson, Woodward	Boston, Mass.	5
Hurtado, Mercedes	19 Whitehall street, New York, care of Hurtado & Co., in liquidation.	2
James, Angelina Henrietta	99 Grove Lane, Denmark Hill, London, England.	50
Jennings, F. B.	15 Broad street, New York	3
Lampre, Edouard	Paris, France	341
Leverich, C. D. & Bro.	48 Wall street, New York	13
Mackay, Mary C.	6 Wall street, New York, care of A. K. Mackey.	5
Maddock, Henry	21 Barclay street, New York	1
Manning, John B.	2 Wall street, New York	233
Manning, Mary	do	10
Mills, D. O.	15 Broad street, New York	1
Montefiore, Madam E. L.	26 Exchange place, New York, care of L. Von Hoffman & Co.	15
Motley, J. M.	12 John street, New York	5
Murray, Williams.	112 Wall street, New York, care of Czarnikow, McDougall & Co.	15
McCullough, John G.	21 Cortlandt street, New York	3
Newton, Anna M.	24 State street, New York	1
Oppenheim, Ernest L.	Johnston Building, New York, N. Y.	150
Oppenheim, Edward L.	do	10
Palmedo, U.	26 Exchange place, New York, care of L. Von Hoffman & Co.	10
Park, T. L.	345 Broadway, New York	3
Parker, J. H.	Cotton Exchange Building, New York	1
Pegler, Stephen Francis and Francis	Amcott House, East Redford, England	94
Phipard, Harvey Flak	do	2
Phipard, Wm. George	Care of H. T. Phipard, Singer Manufacturing Company, 149 Broadway, New York.	1
Phipard, Chas. Butler	do	1
Phipard, Clarence Lester	do	1
Raphael, Lewis	45 Wall street, New York, care of J. Kennedy Tod & Co.	14
John Henry Savile and Chas. John Mander, executors estate of Anne Raphael.	do	14
Simons, J. Edward	14 Nassau street, New York	1
Von Hoffman, L., & Co.	26 Exchange place, New York	10
Total		70,000

NEW YORK, March 6, 1906.

Senator MORGAN. You have here the statement that Jean Pierre Gautron, liquidator, whose residence is at Paris, France, held 68,534 shares. That is the statement that you put in here. Now, he was the liquidator of the old company, and at that time that stock stood in his name; and that was at the date of your examination, which was February 26, 1902. Now, on the date of that examination all of this capital stock, including those 68,534 shares, was held by the liquidator of the old company on your books?

Mr. DRAKE. The stock list was correct, sir.

Senator MORGAN. The stock list was correct; yes. When did that stock ever pass by transfer or otherwise on your books to the New Panama Canal Company?

Mr. DRAKE. I should have to get a transcript of the stock ledger in order to tell that, sir. I will give you every change in the holding of the stock. We keep a regular stock ledger that shows the changes by transfer.

Senator MORGAN. Mr. Drake, when you have the opportunity of referring to your records I wish you would state that fact to the committee and inform us when the transfer took place of this same stock to the New Panama Canal Company. Do you recollect that it ever did take place?

Mr. DRAKE. There were several transfers of the bulk of the stock, sir. My recollection is that it passed once from the old company to the new and back from the new to the old again; but the stock list will show that perfectly.

Senator MORGAN. Have you any knowledge of the facts that caused this vibration and change of stock from the old to the new company which you have just mentioned?

Mr. DRAKE. Not the slightest.

Senator MORGAN. But you remember the fact that it did change from the old to the new, and from the new back to the old?

Mr. DRAKE. Yes, sir; I do, because it was part of my duty to sign the certificates.

Senator MORGAN. Where was this stock held—by which of these companies, the liquidator of the old company or the New Panama Canal Company—at the time of the transfer to the United States?

Mr. DRAKE. I do not know, sir.

Senator MORGAN. You do not know?

Mr. DRAKE. No, sir.

Senator MORGAN. When this stock was held by the old company, who voted it in the board?

Mr. DRAKE. Whoever held the proxies.

Senator MORGAN. Well, who was it?

Mr. DRAKE. The records would show that.

Senator MORGAN. You do not remember?

Mr. DRAKE. Generally, Xavier Boyard. I think in almost every instance he voted the proxies of the French stock, when it was held by either of the companies.

Senator MORGAN. So that he held proxies from either of the companies, whichever happened to hold it?

Mr. DRAKE. Yes; they would be sent to him just before the election.

Senator MORGAN. Boyard was the standing representative of both companies, as proxy?

Mr. DRAKE. Yes, sir.

Senator MORGAN. But you have no information or recollection in regard to the vibration of this ownership of the stock backward and forward between Gautron and the new company?

Mr. DRAKE. Not the slightest, sir.

Senator MORGAN. Did you ever discuss that subject with anybody?

Mr. DRAKE. No, sir; it was none of my business.

Senator MORGAN. I thought everything about the railroad was some of your business.

Mr. DRAKE. When any stock is offered at the office of the company for transfer it is my duty, and I am obliged, to transfer it, and as an officer of the company I sign the certificate. I have not the right to question the transfer.

Senator MORGAN. Did it create no surprise in your mind that this vast amount of stock, 68,534 shares, was passing backward and forward between one company and another?

Mr. DRAKE. Not the slightest, sir.

Senator MORGAN. It did not?

Mr. DRAKE. No, sir.

Senator MORGAN. And you have no recollection of the dates of these vibratory motions of that stock—this oscillation?

Mr. DRAKE. No, sir.

Senator MORGAN. Was it before or after the date of this treaty that I will now call your attention to? There are two dates here. One was the 31st of March, 1902, and the other was the 18th of April, 1902, in the letter which Mr. Hay wrote to Mr. Concha, and which I will read. [Reading:]

DEPARTMENT OF STATE,

Washington, April 21, 1902.

SIR: I have the honor to acknowledge receipt at your hands of a communication dated the 31st of March, 1902, and another of the 18th of April, inclosing a proposal of the Republic of Colombia for a concessionary convention or treaty between the Republic of Colombia and that of the United States of America respecting the completion, maintenance, operation, control, and protection of an interoceanic canal over the Isthmus of Panama.

I am directed by the President to inform you that I shall be ready to sign with you the proposed convention as soon as—

“First. The Congress of the United States shall have authorized the President to enter into such an arrangement; and

“Second. As soon as the law officers of this Government shall have decided upon the question of the title which the New Panama Canal Company is able to give of all the properties and rights claimed by it and pertaining to a canal across the Isthmus and covered by the pending proposal.”

Accept, sir, the renewed assurances of my highest consideration.

JOHN HAY.

Señor Don JOSE VICENTE CONCHA.

Was it before or after that date that the old Panama Canal Company ceased to be the owner of this stock, according to your records, and the New Panama Canal Company was substituted as the owner?

Mr. DRAKE. I do not know, sir.

Senator MORGAN. You do not know?

Mr. DRAKE. I can produce the record, though.

Senator MORGAN. The dates are very important, you see, Mr. Drake.

Mr. DRAKE. Yes, sir.

Senator MORGAN. You will give them exactly as they are when you make your statement?

Mr. DRAKE. Yes, sir. May I suggest that that will be answered by my giving you a certified copy of all the transfers of the stock that have been made since the date mentioned, sir?

Senator MORGAN. That will be very good.

Mr. DRAKE. What is the date, please, that I shall start from?

Senator MORGAN. I have given two dates here. One is the 31st of March, and the other is the 18th of April, 1902.

Mr. DRAKE. From March 31, 1902, to date?

Senator MORGAN. Yes, sir. Now, Mr. Chairman, I desire to have printed in the record, without reading it, a communication from the Hon. John Hay to the Hon. William P. Hepburn, chairman of the Committee on Interstate and Foreign Commerce of the House of Representatives, dated May 15, 1902, and the following papers transmitted at the same time, including a letter of Mr. William Nelson Cromwell, general counsel of the New Panama Canal Company, dated March 31, 1902. I offer these in order to show the beginning—the first statement of the relations between Colombia and the Panama Canal Company, in which Colombia consented to the sale by the Panama Canal Company of the property of that company and also of the Panama Railroad Company.

(The papers above referred to will be found printed at the end of Mr. Drake's testimony.)

Senator MORGAN. Now, in order to identify more particularly the character of that agreement, which is furnished by Mr. Concha, the Colombian minister here, I will read the first article in that proposed treaty, which Mr. Hay said he was ready to sign, by direction of the President, whenever Congress authorized such a treaty to be entered into and whenever the titles to the property of the Panama Canal Company were ascertained. [Reading:]

"ARTICLE 1. The Government of Colombia authorizes the New Panama Canal Company to sell and transfer to the United States its rights, privileges, properties, and concessions, as well as the Panama Railroad, and all the shares or part of the shares of that company, with the exception of the public lands situated outside of the zone hereinafter specified, now corresponding to the concessions to both said enterprises, which public lands shall revert to the Republic of Colombia.

"But it is understood that Colombia reserves all its rights to the special shares in the capital of the New Panama Canal Company, to which reference is made in Article IV of the contract of December 10, 1890, which shares shall be paid their full nominal value, at least.

"The railroad company (and the United States as owner of the enterprise) shall be free from the obligations imposed by the railroad concession, excepting as to the payment, at maturity, by the railroad company of the outstanding bonds issued by said railroad company."

I will also read the second article.

"ART. 2. The United States shall have the exclusive right to excavate, construct, maintain, operate, control, and protect a maritime

canal from the Atlantic to the Pacific Ocean, to and across the territory of Colombia, such canal to be of sufficient depth and capacity for vessels of the largest tonnage and greatest draft now engaged in commerce, and also the same rights for the construction, maintenance, operation, control, and protection of railway, telegraph, and telephone lines, canals, dikes, dams, reservoirs, and such other auxiliary works as may be necessary and convenient for the construction, maintenance, protection, and operation of the canal."

Do you remember the date of the organization of the New Panama Canal Company?

Mr. DRAKE. No, sir.

Senator MORGAN. I have it here as an appendix to your former testimony. The precise date of the authority for the organization is not given in the paper attached to Mr. Drake's former deposition, but I will supply it to the committee from other papers that are here as soon as I can lay my hands upon them. It was in conformity, however, to the laws of July 24, 1867, and August 1, 1893. You were in office in the Panama Railway Company at that last date, August 1, 1893?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And had been for some time before?

Mr. DRAKE. I do not know that I held an official position. I was a director at that time.

Senator MORGAN. You were a director?

Mr. DRAKE. Yes, sir.

Senator MORGAN. As a director you had knowledge of the fact that the New Panama Canal Company had become the owner of the railroad?

Mr. DRAKE. If there was a transfer made at that time—I do not recall that there was—if there was a transfer made at that time I must have known of it.

Senator MORGAN. Do you not remember as important a fact as that in respect to the destiny of your railway—as important a fact as the ownership of it being transferred entirely from the old to the new company?

Mr. DRAKE. I know that at some date the New Canal Company came into the possession of the Panama Railway Company, but I can not fix it in my mind, sir.

Senator MORGAN. That was the date of the organization of the new company, was it not?

Mr. DRAKE. I do not know, sir.

Senator MORGAN. Under the French court?

Mr. DRAKE. I do not know, sir.

Senator MORGAN. I want to call attention now to one or two provisions in this charter which was granted by the French company. [Reading:]

"The present corporation shall become owner of the property and rights hereby ceded and contributed on and from the day when it shall have been finally constituted; except, however, what is to be stated hereinafter in regard to the Panama Railroad."

That is in article 3 of the charter, as I call it, of the New Panama Canal Company.

"These sessions and contributions are made by Mr. Gautron under the following reservations and provisions, namely:"

I turn to the third provision and read it:

"The rights of every nature on the Panama Railroad belonging to the liquidation and contributed by Mr. Gautron under section 4 of this article shall become vested in the present corporation"—

That is, the new corporation—

"From the day of the meeting, the convening of which is provided for under article 75 hereinafter, without any pecuniary consideration, but under the resolatory proviso that the canal shall be completed within the time stipulated in the act of concession. Should the canal not be completed within the said time, the said rights would revert to the liquidation.

"If, contrary to expectation, the above-mentioned meeting should not make the requisite provisions for the completion of the canal, or, if the provisions made by the meeting could not be carried out, the said rights on the railroad would remain the property of the present corporation, but the latter would be held to pay to the liquidation a sum of 20,000,000 of francs by way of indemnity, and the share in the profits allotted to the liquidation would be one-half of the profits of the present corporation, and no amount shall be set aside out of such profits except those provided for in paragraphs 2 and 3 of article 51 hereinafter.

"In consequence the said rights shall remain inalienable in the possession of the new company until the said sum of 20,000,000 francs shall have been paid, or until the canal shall have been entirely completed."

Then I read from article 6:

"ART. 6. The corporate stock is fixed at 65,000,000 francs, divided into 650,000 shares of 100 francs each.

"Out of these 650,000 shares, 50,000, entirely free from any liability, shall be allotted to the Government of the United States of Colombia in conformity to the extension law of December 27, 1890, as stated in the foregoing article.

"As to the remaining 600,000 shares, they shall be subscribed to in cash.

"The corporate stock may be increased once or from time to time by a resolution of the regular general meeting and on the motion of the board, by means of additional shares."

Were these provisions of the charter of this new company ever called to the attention of the board of directors of the New Panama Railroad Company?

Mr. DRAKE. No, sir.

Senator MORGAN. They took no action upon it at all?

Mr. DRAKE. Not the slightest.

Senator MORGAN. So that when these changes took place by transfers of this stock back and forth between the liquidators of the old company and the new company that was all the indication you had of a change of ownership?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And the company was not called upon to consent to it in any way at all?

Mr. DRAKE. No, sir.

Senator MORGAN. You will notice the provision here that the railroad was transferred to the new company, and was to be inalienable in their hands, and that if at the end of the period fixed for the construction of the canal it was not constructed, or if for any other reason the canal was not constructed, then the New Panama Canal Company

had the right to buy the interest of the old Panama Canal Company in the railroad for 20,000,000 francs, which was about \$5,000,000. Has the new company ever been a party in any way, within your knowledge, to any payment to the liquidator of the old company of that 20,000,000 francs?

Mr. DRAKE. I have no knowledge on the subject at all, sir.

Senator MORGAN. You have no knowledge on the subject?

Mr. DRAKE. No, sir.

Senator MORGAN. Your books do not show any transaction of the kind?

Mr. DRAKE. Not in any way, sir.

Senator MORGAN. So that the New Panama Canal Company, under these prescribed regulations, became the absolute owner of the railway and all of its belongings at the time when it was determined between Colombia and the United States and the Panama Railroad Company that the property might be sold to the United States, if it was sold, and when it was sold?

Mr. DRAKE. You said "the Panama Railroad Company." You meant the Panama Canal Company?

Senator MORGAN. Yes; the Panama Canal Company. Do you know anything about that?

Mr. DRAKE. Not at all, sir.

Senator MORGAN. And you were still a director, during all this period, in the railway company?

Mr. DRAKE. In the railroad company; yes, sir. The only knowledge that I would have in any way of any effect of any such negotiations would be by the transfer or retransfer of the stock, which is a matter of record.

Senator MORGAN. Yes. So that all the stock that belonged to the liquidator, and all of this railroad property of every kind, according to this provision, remained in the New Panama Canal Company as between it and the old company. It was made inalienable, and remained there. Now, if that is so, have you any conception of any reason why this stock that represented the ownership of the company was transferred back and forth between the old company and the new?

Mr. DRAKE. I have not, sir; I have not the slightest.

Senator MORGAN. You have no knowledge on the subject?

Mr. DRAKE. I have not the slightest knowledge on the subject.

Senator MORGAN. And you are a railroad director?

Mr. DRAKE. I am a railroad director; yes, sir.

Senator MORGAN. And have been all the time?

Mr. DRAKE. All the time, sir.

Senator MORGAN. And your company has taken no action upon it whatever?

Mr. DRAKE. Not the most remote. The directors have served as elected by the proxies of the owner of the stock, and have had control of the direction and operation of the railroad company, without the slightest knowledge of the affairs of the canal company. Mr. Boyard, of course, was their representative.

Senator MORGAN. During the times that these transactions were taking place, and while you were a director, have you any recollection of any transaction at all in which the demands or requests of the old Panama Canal Company or the New Panama Canal Company, as they

alternately held the stock, were refused to be complied with by your board of directors?

Mr. DRAKE (after a pause). I have an indistinct recollection of one occasion when the views of the directors were opposed to the views of the stockholders, as expressed to us, but what it was I can not tell.

Senator MORGAN. The views of the directors of the railroad were opposed to the views of the stockholders?

Mr. DRAKE. They were opposed to the views of the stockholders.

Senator MORGAN. One of these companies, either the old or the new, being at that time the owner of the stock, or holding the stock?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Do you recollect the subject that that related to?

Mr. DRAKE. I do not, sir. If I did——

Senator MORGAN. Well, which prevailed, the directors or the canal company?

Mr. DRAKE. I do not recall that, sir. It was not an important matter.

Senator MORGAN. It was not an important matter?

Mr. DRAKE. No, sir; as I remember it. In answering your question, I remember that there was a time——

Senator MORGAN. Mr. Boyard during all this time was the representative of one company or the other, whichever the ownership of the stock happened to be in?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Did he hold consultations with the board of directors?

Mr. DRAKE. About railroad affairs?

Senator MORGAN. Yes.

Mr. DRAKE. He was a director of the railroad, and participated in their deliberations.

Senator MORGAN. He was a director of the railroad also?

Mr. DRAKE. He was also a director of the railroad.

Senator MORGAN. And therefore had full access to all of its meeting and all of its workings?

Mr. DRAKE. Oh, yes, sir; he was a member of the executive committee.

Senator MORGAN. He was a member of the executive committee also?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Along with Mr. Cromwell?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Now, is it not a fact that Boyard, in whatever capacity he acted, whether as proxy for the old canal company or proxy for the new canal company, fixed the policy of the railroad company?

Mr. DRAKE. No, sir.

Senator MORGAN. In what instance was he denied that opportunity or privilege?

Mr. DRAKE. He would be denied it persistently and constantly by an intelligent board of directors. He would communicate the views of the stockholders—he might do that, if it was necessary or advisable for him to do so; and the directors would exercise their judgment and decision in doing what they thought best.

Senator MORGAN. Can you give an instance now, from your recollection, when the railroad board of directors went against Boyard's request or demand?

Mr. DRAKE. No, sir; I can not.

Senator MORGAN. How do you know the fact, then, if you do not remember an instance in which it occurred?

Mr. DRAKE. Because I know the character of the board and I know the character of their deliberations.

Senator MORGAN. That is all you know about it, is it?

Mr. DRAKE. Yes, sir.

Senator MORGAN. You know that the character of the board was such that they would resist anything that they did not like from Boyard?

Mr. DRAKE. Anything that seemed like dictation; yes, sir.

Senator MORGAN. But you do not remember any instance in which Boyard made any suggestion or request?

Mr. DRAKE. No, sir.

Senator MORGAN (continuing). To the board of directors, in which he was thwarted?

Mr. DRAKE. No, sir.

Senator MORGAN. This railroad company and railroad property was practically in the ownership of the canal companies, whether it was Gautron as the liquidator of the old company, or whether it was the president or the managing agent, or whoever he might be, of the new company?

Mr. DRAKE. Yes, sir, if they owned the stock; as owners of the stock—whichever one of them was the owner of the stock.

Senator MORGAN. That sixty-eight thousand and odd shares controlled the destiny and the operations of the railway company?

Mr. DRAKE. By the selection and election of the board of directors; yes, sir. By voting their stock they would elect the board of directors, and so have representative directors in the stock control, exactly as the position is to-day.

Senator MORGAN. Did you not consider yourself, as one of the directors of that railroad, as being a director of a property that was owned, according to the transfers of stock, either by Gautron as liquidator, or by the New Panama Canal Company, whichever it might be?

Mr. DRAKE. Yes, sir.

Senator MORGAN. And was not the request of Mr. Gautron or his demand upon the railway company equivalent to that of a stockholder in a meeting?

Mr. DRAKE. Not except at a stockholders' meeting, sir, when a stockholder holding one share is all-powerful. Once the board of directors was elected the control of the operation of the railroad was vested in that board.

Senator MORGAN. If such a man as Gautron, who appears, according to your statement, to have owned one share for the purpose of qualifying himself personally to be a director in that company, at the same time received a mandate from a stockholder that owned sixty-eight thousand and odd shares out of 70,000, would he regard the mandate of the ownership of the railroad to that excessive extent over his holdings as being equivalent to the mandate of a stockholders' meeting?

Mr. DRAKE. If a man were elected by such a majority he would undoubtedly be a representative director. He would be an independent

director, and if he could not fall in with the policy of the majority owners it would be obligatory upon him, I should think, to resign.

Senator MORGAN. He would have to resign?

Mr. DRAKE. Yes, sir.

Senator MORGAN. Boyard never intimated that he intended to resign. did he?

Mr. DRAKE. Oh, no, sir.

Senator MORGAN. He did not resign?

Mr. DRAKE. He did not resign. I never have owned but one share in the stock, and have always been a representative director, as I am to-day, of the United States Government in the property.

Senator MORGAN. Yes; but you do not have any connection with the Panama Canal Company?

Mr. DRAKE. I owned one share then, sir, and I do now; I have always owned my stock.

Senator MORGAN. In the Panama Canal Company?

Mr. DRAKE. Not in the Panama Canal Company; no, sir. I never had anything to do with that. I never met any of the canal people.

Senator MORGAN. Was Mr. Cromwell the holder of any stock in the Panama Canal Company, either the new or the old, so far as you knew?

Mr. DRAKE. No, sir; not that I know of.

Senator MORGAN. I intended, Mr. Drake, to examine you on various other points in this matter; but you have given some statements about it in your former deposition, and I believe I will stand on them rather than to detain you, as I understand that you have some family reasons for desiring to be absent.

Mr. DRAKE. I do not seek to hurry the action of the committee at all, gentlemen. I only wanted to get some idea of when the committee would be through with me, so that I might let the people in New York know when I was coming. It is important that I should be there to-day; but I am here, and I will stay here as long as the committee desires.

Senator MORGAN. I understood from the chairman that you had some personal family reasons for wanting to return.

Mr. DRAKE. My wife is very ill, and was when I came.

Senator MORGAN. That is what I understood, and that is the reason I said I would not continue the examination in reference to some matters I desired to examine you about, because I thought that perhaps they were explained, if not sufficiently, at any rate to a certain extent in your former deposition.

Mr. DRAKE. I thank you extremely for your courtesy.

(Mr. Drake left with the clerk of the committee the reports of the Panama Railroad Company for the years 1896 to 1905, both inclusive.)

(The committee thereupon adjourned until to-morrow, Thursday, April 26, 1906, at 10.30 o'clock a. m.)

(The papers referred to by Senator Morgan during the foregoing examination, and which are printed by direction of the committee, are as follows:)

DEPARTMENT OF STATE,

Washington, May 15, 1902.

SIR: I have the honor to inclose copies of letters from the Colombian minister, dated the 31st of March and the 18th and 23d of April, accompanied by the letter of exposition and the letter of William Nelson

Cromwell, both dated the 31st of March, referred to in the minister's letter of that date; and also a memorandum of a convention which the Government of Colombia is ready to sign with that of the United States of America, respecting the completion, maintenance, control, and protection of an interoceanic canal over the Isthmus of Panama.

I also inclose a copy of a letter which I addressed to the minister of Colombia on the 21st of April, announcing that I am directed by the President to inform him that I shall be ready to sign with him the proposed convention as soon as the Congress of the United States shall have authorized the President to enter into such an arrangement and the law officers of this Government shall have decided upon the question of the title which the New Panama Canal Company is able to give of all the properties and rights claimed by it and pertaining to a canal across the Isthmus and covered by the pending proposal. I inclose also a project of a treaty presented to me this day by the minister of Nicaragua in behalf of his Government. I have not yet received a definite proposition from the Government of Costa Rica, but am informed by the Costa Rican minister that his Government is ready to enter into satisfactory arrangement with that of the United States on the basis of the protocol of December 1, 1900; but that, as set forth in the recent message of President Iglesias, an extract from which I inclose, it will be necessary that the Government of Costa Rica should, before entering into positive negotiations with that of the United States of America, adopt a constitutional amendment authorizing the necessary concessions for the construction of an interoceanic canal, or to have the matter referred to public opinion in some other way by calling a constituent assembly for the purpose. I am assured by the Costa Rican Government that these steps will be taken as soon as the Congress of the United States shall decide the question of the route of the canal.

I also inclose, in accordance with the request of the Nicaraguan minister, a copy of the protocol entered into between this Government and those of Nicaragua and Costa Rica December 1, 1900.

I have the honor to submit all these documents to your committee, with the hope that this definite information as to the purposes and intentions of the Nicaraguan, Colombian, and Costa Rican Governments may be of service to you in determining the question of the route of the proposed interoceanic canal.

In view of the great interests involved, the President wishes me to express to you and to the committee of which you are chairman his earnest hope that there may be as little delay as possible in the legislation which will authorize the beginning of this work, which he regards as so important and so beneficent to this country and the world.

I am, sir, very truly, your obedient servant,

JOHN HAY.

Hon. WILLIAM P. HEPBURN,

*Chairman Committee on Interstate and Foreign Commerce,
House of Representatives.*

LEGACION DE COLOMBIA,
Washington, D. C., March 31, 1902.

Hon. JOHN HAY,
Secretary of State of the United States:

I have the honor to hand your excellency the proposal of the Republic of Colombia for a concessionary convention or treaty between the Republic of Colombia and the United States of America respecting the completion, maintenance, operation, control, and protection of the interoceanic canal over the Isthmus of Panama.

I soon shall hand you a letter of exposition, and also have requested Mr. William Nelson Cromwell, general counsel of the New Panama Canal Company, to present you a statement which I have approved.

Please accept these additional communications in connection with the proposed treaty.

I avail myself of this opportunity to renew to your excellency the assurance of my high consideration.

JOSÉ VICENTE CONCHA.

[Translation.]

LEGATION OF COLOMBIA,
Washington, D. C., March 31, 1902.

Hon. JOHN HAY,
Secretary of State of the United States:

The undersigned envoy extraordinary and minister plenipotentiary of the Republic of Colombia has the honor to supplement the note which he had the honor to hand to the honorable Secretary of State, together with the memorandum setting forth the bases of a treaty between Colombia and the United States for the purpose of securing the authorization of Colombia for the New Panama Canal Company to transfer its rights and privileges to the American Government and of regulating the relations between the contracting parties in respect of this enterprise.

The bases have been formulated after a serious and mature consideration of those which were submitted to the legation on the subject by the president of the Isthmian Canal Commission, which had been entrusted by the honorable Secretary of State with the discussion of the question. The intent of these bases has been to condense the most liberal terms that could be granted by Colombia in the matter.

The Republic that I represent realizes the importance of the contemplated interoceanic waterway for the civilization and progress of the world, and since nature has placed the shortest and most expeditious route within the territory of the Republic, Colombia widely and generously opens her doors so that the grand work may be achieved within the shortest possible time.

If the people of the United States evince an earnest desire that their Government apply its energies and treasure to the completion of the canal, Colombia not only will not place any obstacle whatever in the way of such a purpose or keep her concessions within the bounds of those previously conceded to private enterprise, but will enlarge those concessions to such an extent as to renounce a demand for the ownership after the lapse of a number of years of operation, as stipulated in

the French company's contract; she will grant the use of a much more extensive zone than that originally conceded for the execution of the work; extend facilities in all the ports of the Republic for cooperation in the work of the enterprise, relinquish her proprietary and usufructuary rights in the Panama Railway, and lastly, foregoes a fixed participation in the proceeds of the canal, confining her demands to a fee or annuity for the price of the zone, the revenues of the railway, and the heavier expenses put upon the public administration in the Isthmus by the increase of population and the traffic consequent to the work on the canal itself.

Thus does Colombia give fresh evidence of her long standing and cordial sentiments of friendship toward the United States and evinces in a clear and sincere manner the gratification with which she will receive the industrious and intelligent citizens of your Republic in her territory.

Colombia has no lust of unjust gain through the construction of the canal in her territory, and a final convention on this subject will not be hampered by pecuniary considerations. Her pride in the matter is bent on having the neutral waterway between the two oceans, that ideal of universal peace and progress, become a reality on her territory and under the protection of her sovereignty. The compensations asked by Colombia have special importance only in that they will imply a practical and constant recognition of her sovereignty.

The undersigned has no doubt that the mere perusal of the memorandum will bring forward the justice and equity of the propositions which, if accepted, would be perfected in the same spirit.

The undersigned embraces this opportunity to reiterate to the honorable Secretary the assurances of his highest and most distinguished consideration.

JOSE VICENTE CONCHA.

SULLIVAN & CROMWELL,
New York, March 31, 1902.

SIR: In connection with the presentation by Señor Jose Vicenté Concha, minister plenipotentiary and envoy extraordinary from the Republic of Colombia, of a proposed concessionary convention or treaty between the United States and Colombia, to further the completion, operation, control, and protection of the Panama Canal by the United States, I have been requested by the minister, in view of my relation to the subject as general counsel of the Panama Canal Company, and of my knowledge of the minister's views derived from our daily conferences in the preparation of the treaty, to submit the following reflections:

Colombia welcomes the United States to its territory, and will facilitate in every way reasonable within its power the consummation of the desires and needs of the United States for the completion, operation, maintenance, control and protection of the interoceanic canal across its domain, subject, of course, to the sovereignty of Colombia, and a reasonable and just convention between the two nations.

Colombia views with admiration, as does the rest of the world, the splendid magnanimity, the far-seeing statemanship, the virile and comprehensive policy which moves this people to construct the greatest undertaking which ever has engaged the attention of mankind, not for

its own benefit alone, nor with selfish preference to its own commerce, but for the common benefit, upon equal terms and under universal neutrality in times of peace for all the peoples of the earth.

History does not furnish another instance of such national generosity, patriotism, and wisdom.

This could not but call out from Colombia the warmest response; and that nation takes pride in associating herself with an affair conducted upon such an elevated plane of national and international duty and concern.

The Isthmian Canal Commission, a most distinguished and able body, selected with such care by President McKinley to consider all possible isthmian canal routes and to determine which of them it is most to the interest of the United States to acquire, has reported unanimously that the Panama route is the most practicable and feasible route for an isthmian canal to be under the control, management, and ownership of the United States. Therefore the solution of the problem only involves two other conditions:

1. The sale by the New Panama Canal Company to the United States of the concession, property, and rights of the canal, with the shares of the Panama Railroad Company.

2. A new concessionary convention or treaty with Colombia.

3. The first of these two conditions already has been made easy of fulfillment in the formal acceptance by the New Panama Canal Commission of the valuation fixed by the Isthmian Canal Commission—\$40,000,000—and by its duly authorized proposal to the United States for a sale of the property at that price (subject, of course, to a satisfactory convention being arrived at between the United States and Colombia).

The sole remaining condition, then, is the determination of the concessionary and treaty relations of the United States to a zone of territory across the Isthmus of Panama necessary for the consummation of the undertaking.

There has not been a moment in which Colombia has not entertained the keenest desire to further the designs of the United States, and this sentiment has prevailed under each succeeding administration in Colombia and alike in both of the great national parties who alternately have ruled in that country.

This sentiment is neither new born nor inspired by hope of pecuniary gain. The two nations are old friends, and this feeling assumed practical form in 1846, when the treaty of that year was made, which expressly provided for the construction of this canal; in furtherance of which Colombia guaranteed to the United States the free transit of the Isthmus, and granted extraordinary concessions to the people and commerce of the United States, upon terms of perfect equality with its own citizens, while the United States, in turn, guaranteed the neutrality of the Isthmus and of the canal to be constructed upon it, as well as the sovereignty of Colombia over that territory.

It is a significant fact that this treaty of 1846-1848, assuring to the United States especial rights and privileges upon the Isthmus of Panama in connection with any interoceanic canal or railroad across the Isthmus of Panama, antedates the Clayton-Bulwer treaty. The treaty of 1846-1848 is in full force, as it has continued to be without change from the date of its execution.

Colombia has never made a treaty with any other nation upon the subject of an isthmian canal, although it was at liberty to do so.

These treaty ties cementing their joint design for the construction of a new highway for the world have held the two nations together in common interests and unbroken friendship for more than half a century.

By granting the concessions now owned by the New Panama Canal Company, and by furthering the construction of the canal to its present advanced stage of completion by the old and new Panama Canal companies, Colombia initiated the great work which now, happily, the United States may consummate.

While the minister of Colombia was in Washington for more than a year waiting for the moment when the subject could be seriously and attentively discussed, it is only since January 4, 1902, that anything could be definitely said or done, since then, and then only, was a definite proposal of sale made by the canal company. Immediately thereupon, however, the Government of Colombia, requiring the service of its then minister in other important fields, designated its minister of war, Señor Concha, as minister plenipotentiary and envoy extraordinary, to come at once from Bogota to Washington, charged with its ripest views and amplest instructions, to confer with the Executive authorities of the United States, and, after exchange of information and opinions, to reach a satisfactory convention.

Minister Concha has devoted himself, since his arrival a few weeks ago, absorbingly to this task and is prepared to reach a conclusion with the Executive officers of the Government.

He is fully empowered to negotiate and sign a treaty, subject only to the ratification of the Colombian Congress, as in like cases with all nations.

But Colombia is in the dark as to the precise desires and needs of the United States upon the subject, and Minister Concha can not, of course, anticipate in his first statement all the reasonable requirements of this Government. He wishes, however, to manifest in the most hearty manner the desire of his Government to facilitate the purposes of the United States, and this disposition is manifested by the comprehensive convention which he has this day submitted to you, but not as an ultimatum. The establishment of a canal convention involves, as you are so well aware, besides the utilization of a canal zone for the construction, operation, maintenance, control, and protection of a canal, railroad, and auxiliary works, as well as a grant renewable perpetually and a consent to the sale by the New Panama Canal Company (all of which Colombia concedes in the convention submitted), but also numerous other grave questions relating to judicial procedure, punishment of crimes, the capture of criminals, sanitary and police regulations of Panama and Colon, proper regard to the vested interests upon the Isthmus, exemption of the United States from all forms of taxes, port charges, or other dues, etc. Quite aside from pecuniary matters, these are subjects which only can be examined and negotiated directly with you in person and are impossible of negotiation with the Houses of Congress.

Permit me to call attention to the facts that a canal convention in respect of the Isthmus of Panama necessarily involves considerations which do not relate to a section where there is but a wilderness, uninhabited by man, and producing no income to the nation. The conven-

tion respecting the Panama route covers a zone each pathway of commerce across the continent for four by with important cities at its termini, with villages along a settled population, with considerable property, and vested interests to be taken into consideration.

All this represents an increment of value in ci, means of protection, in expenditures of national ~~the~~ ment and development, as well as in certitude of engineering plans, of all which the United States now may derive the benefit.

It would be neither in order nor fitting for the canal company or myself to express any views, one way or the other, upon any of the provisions of the proposed treaty, and our reserve in that regard will be noted. However, I beg to refer, by special request of the minister, to Article XXV of his proposed treaty, and which article relates to the pecuniary terms. Colombia is prepared to discuss, negotiate, and decide upon the precise sum or sums which may be reasonable for the United States to pay and for Colombia to ask; but as the subject is in the hands of Congress, and it seems impracticable at the moment to secure a definite expression of the views of the United States upon the subject, Colombia manifests its good faith and reasonableness by proposing that the annuity shall be only such sum as mutually may be agreed upon between the nations, or, failing in such agreement, such fair and reasonable amount as may be determined by a high commission presided over by the president of the International Peace Tribunal of The Hague, the remaining members being nominated in equal number by the two nations. Such annuity would only be fixed once in a hundred years.

The national requirements of Colombia make a payment of \$7,000,000 desirable, and you will note the provisions on that head; but I also ask you to note that Colombia waives the annuity for the first fourteen years. This method insures to the United States the concessionary rights which it requires and which can not be affected or interrupted by any difference or delay respecting the ascertainment of the annuity. The United States is only required to pay such sum as it may agree upon, or as so may be determined to be fair and reasonable. Colombia does not ask more than what may be determined to be fair and reasonable, and surely the United States does not wish to do less than that.

I have the honor to be, Mr. Secretary,

Your obedient servant,

WM. NELSON CROMWELL,
General Counsel, New Panama Canal Company.

Hon. JOHN HAY,
Secretary of State, Washington, D. C.

LEGACION DE COLOMBIA,
Washington, D. C., April 18, 1902.

SIR: Confirming the conclusions reached as the result of the conference held between yourself and Mr. Cromwell, and adopting, as far as practicable, your valuable suggestions, I beg leave to hand you the concessionary convention or treaty (in Spanish and in English) embodying the amendments agreed upon in the conference referred to.

Colombia is communication, of March 31, 1902, proposing the conclusion of an convention or treaty in behalf of my Government, and the communications of myself and Mr. Cromwell under the date, apply equally to the inclosures.

Awaiting the pleasure of your excellency, I have the honor to renew the assurances of my high consideration.

J. V. CONCHA.

Hon. JOHN HAY,
*Secretary of State of the United States,
 Department of State.*

Memorandum of points to be embodied in a convention between the Republic of Colombia and the United States of America for the construction of an interoceanic canal by the Panama route and the management of the railroad over said Isthmus, in furtherance of article 35 of the treaty of 1845-1848 existing between said nations.

[Presented by the envoy extraordinary and minister plenipotentiary of the Republic of Colombia.]

ARTICLE I.

The Government of Colombia authorizes the New Panama Canal Company to sell and transfer to the United States its rights, privileges, properties, and concessions, as well as the Panama Railroad and all the shares or part of the shares of that company, with the exception of the public lands situated outside of the Zone hereinafter specified, now corresponding to the concessions to both said enterprises, which public lands shall revert to the Republic of Colombia.

But it is understood that Colombia reserves all its rights to the special shares in the capital of the New Panama Canal Company to which reference is made in Article IV of the contract of December 10, 1890, which shares shall be paid their full nominal value at least.

The railroad company (and the United States as owner of the enterprise) shall be free from the obligations imposed by the railroad concession, excepting as to the payment at maturity by the railroad company of the outstanding bonds issued by said railroad company.

ARTICLE II.

The United States shall have the exclusive right to excavate, construct, maintain, operate, control, and protect a maritime canal from the Atlantic to the Pacific Ocean, to and across the territory of Colombia, such canal to be of sufficient depth and capacity for vessels of the largest tonnage and greatest draft now engaged in commerce, and also the same rights for the construction, maintenance, operation, control, and protection of railway, telegraph and telephone lines, canals, dikes, dams, reservoirs, and such other auxiliary works as may be necessary and convenient for the construction, maintenance, protection, and operation of the canal.

ARTICLE III.

To enable the United States to exercise the rights and privileges granted by the foregoing articles, the Republic of Colombia grants to that Government the use of a zone of territory along the route of the

canal to be opened 5 kilometers in width on either side thereof from its center line, excluding the cities of Panama. So far as necessary for the construction, maintenance, and operation of the canal, the United States shall have the use and occupation of a group of small islands in the Bay of Panama, named Flamenco, together with 10 fathoms of water in the extension of the canal; but the same shall not be ~~considered as being~~ within the zone herein defined nor governed by the special provisions applicable to the zone. This concession shall be for the term of one hundred years, renewable at the option of the United States for periods of similar durations and subject to the payment of the amount hereinafter expressed.

This grant shall in no manner invalidate the titles of rights of private landholders in the said zone of territory, nor shall it interfere with the rights of way over the public roads of the department.

All the stipulations contained in article 35 of the treaty of 1846-1848 between the contracting parties shall continue and apply in full force to the cities of Panama and Colon and to the accessory community lands within the said zone, and the territory thereon shall be neutral territory, and the United States shall continue to guarantee the neutrality thereof and the sovereignty of Colombia thereover in conformity with the above-mentioned article 35 of said treaty.

In furtherance of this provision there shall be created a joint commission by the Governments of Colombia and the United States that shall establish and enforce sanitary and police regulations.

ARTICLE IV.

The rights and privileges granted to the United States by the terms of this convention shall not affect the sovereignty of the Republic of Colombia over the territory within whose boundaries such rights and privileges are to be exercised.

The United States freely acknowledges and recognizes this sovereignty and disavows any intention to impair it in any way whatever or to increase its territory at the expense of Colombia or of any of the sister republics in Central or South America, but, on the contrary, it desires to strengthen the power of the republics on this continent and to promote, develop, and maintain their prosperity and independence.

ARTICLE V.

The Republic of Colombia authorizes the United States to construct and maintain at each entrance and terminus of the proposed canal a port for vessels using the same, with suitable light-houses and other aids to navigation, and the United States is authorized to use and occupy, within the limits of the Zone fixed by this convention, such parts of the coast line and of the lands and islands adjacent thereto as are necessary for this purpose, including the construction and maintenance of breakwaters, dikes, jetties, embankments, coaling stations, docks, and other appropriate works. And the United States undertakes the construction and maintenance of such works and will bear all the expense thereof. The ports when established shall be declared free, and their demarcations shall be clearly and definitely defined.

To give effect to this article the United States will give special attention and care to the maintenance of works for drainage, sanitary,

Colombia for purposes along the line of the canal and its dependencies, such as to prevent the invasion of epidemics or of securing their suppression should they appear. With this end in view the United States will organize hospitals along the line of the canal, and will suitably supply the towns of Panama and Colon with the necessary aqueducts and drainage works, in order to prevent their becoming centers of infection on account of their proximity to the canal.

The Government of Colombia will secure the possession of the land that may be required in the towns of Panama and Colon to effect the improvements above referred to, and the Government of the United States shall be authorized to impose and collect equitable water rates, previously agreed upon with the Government of Colombia, during fifty years for the service rendered; but on the expiration of said term the use of the water shall be free for the inhabitants of Panama and Colon, except to the extent that may be necessary for the maintenance of said aqueducts.

ARTICLE VI.

The Republic of Colombia agrees that it will not cede or lease to any foreign government any of its islands or harbors within or adjacent to the Bay of Panama; nor on the Atlantic coast of Colombia, between the Atrato River and the western boundary of the Department of Panama, for the purpose of establishing fortifications, naval or coal-ing stations, military posts, docks, or other works that might interfere with the construction, maintenance, operation, protection, safety, and free use of the canal and auxiliary works. In order to enable Colombia to comply with this stipulation, the Government of the United States agrees to give Colombia the material support that may be required in order to prevent the occupation of said islands and ports, guaranteeing there the sovereignty, independence, and integrity of Colombia.

ARTICLE VII.

The Republic of Colombia includes in the foregoing grant the right, without obstacle, cost, or impediment, to the free navigation and use of the waters of the Chagres River and other streams, lakes, and lagoons, and of all waterways, natural and artificial, within the jurisdiction and under the dominion of the Republic of Colombia, in the department of Panama, that may be necessary or desirable for the construction, maintenance, and operation of the canal and its auxiliary works, including the right to raise and lower the levels of the waters and to deflect them, and to rectify and navigate any and all streams, lakes, and lagoons. All damages caused to private landowners by inundation, or by the deviation of water course, or in other ways arising out of the construction or operation of the canal, shall in each case be appraised and settled by a joint commission appointed by the Governments of Colombia and the United States, but the cost of the indemnities so agreed upon shall be borne solely by the United States.

ARTICLE VIII.

The Government of Colombia declares free for all time the ports at either entrance of the canal and the waters thereof in such manner that there shall not be collected by the Government of Colombia

custom-house tolls, tonnage, anchorage, light-house, wharfage, quarantine dues, nor any other charges or taxes of any kind levied or imposed by the Government of Colombia upon any vessel using or passing through the canal or belonging to or employed by the United States, directly or indirectly, in connection with the construction, maintenance, and operation of the main work or its branches upon the cargo, officers, crew, or passengers of any such vessel; it being the intent of this convention that all vessels and their cargoes, crews, and passengers shall be permitted to use and pass through the canal and the ports leading thereto, subject to no other demands or impositions than such tolls and charges as may be imposed by the United States for the use of the canal and other works. It being understood that such tolls and charges shall be equal for vessels of all nations.

The ports leading to the canal also shall be free to the commerce of the world, and no duties or taxes shall be imposed, except upon merchandise destined to be introduced for the consumption of the rest of the Republic of Colombia, or the department of Panama, and upon vessels touching at the ports of Colon and Panama and which do not cross the canal. Though the said ports shall be free and open to all, the Government of Colombia may establish in them such custom-houses and guards as Colombia may deem necessary to collect duties on importations destined to other portions of Colombia and to prevent contraband trade. The United States shall have the right to make use of the ports at the two extremities of the canal as places of anchorage, in order to make repairs for loading, unloading, depositing, or transshipping cargoes either in transit or destined for the service of the canal.

ARTICLE IX.

There shall not be imposed any taxes—national, municipal, departmental, or of any other class—upon the canal, the vessels that may use it, tugs and other vessels employed in the service of the canal, the railways and auxiliary works, storehouses, workshops, offices, quarters for laborers, factories of all kinds, warehouses, wharves, machinery and other works, property, and effects appertaining to the canal or railroad or that may be necessary for the service of the canal or railroad and their dependencies, whether situated within the cities of Panama and Colon or any other place authorized by the provisions of this convention.

Nor shall there be imposed contributions or charges of a personal character of whatever species upon officers, employees, laborers, and other individuals in the service of the canal and its dependencies.

ARTICLE X.

It is agreed that telegraph and telephone lines, when established for canal purposes, may also, under suitable regulations, be used for public and private business in connection with the systems of Colombia and the other American Republics and with the lines of cable companies authorized to enter the ports and territory of these Republics; but the official dispatches of the Government of Colombia and the authorities of the Department of Panama shall not pay for such service higher tolls than those required from the officials in the service of the United States.

Colombia

ARTICLE XI.

The Government of Colombia shall permit the immigration and free access to the lands and workshops of the canal enterprises of all employees and workmen of whatever nationality under contract to work upon the said canal and its dependencies, with their respective families, and all such persons shall be free and exempt from the military service of the Republic of Colombia.

ARTICLE XII.

The United States may import at any time into the said Zone, free of customs duties, imposts, taxes, or other charges, and without any restriction, any and all vessels, dredges, engines, cars, machinery, tools, explosives, materials, supplies, and other articles necessary and convenient in the construction, maintenance, and operation of the canal and auxiliary works; also all provisions, medicines, clothing, supplies, and other things necessary and convenient for the officers, employees, workmen, and laborers in the service and employ of the United States within the said Zone and for their families. If any such articles are disposed of for use without the Zone and within the territory of the Republic, they shall be subject to the same import or other duties as like articles under the laws of Colombia or the ordinances of the Department of Panama.

ARTICLE XIII.

The United States shall have authority within the said Zone to protect and make secure the canal, as well as railways and other auxiliary works, and to preserve order and discipline among the laborers and other persons who may congregate in that region in consequence of the proposed work.

The Governments of Colombia and the United States shall agree upon the regulations necessary for said purpose, as well as to the capture and delivery of criminals to the respective authorities. Special regulations also shall be agreed upon, in the manner aforesaid, for the establishment of laws and jurisdiction to decide controversies that may arise respecting contracts relative to the construction and management of the canal and its dependencies, as well as to the trial and punishment of crimes that may be committed within the said zone of the canal.

ARTICLE XIV.

The works of the canal, the railways, and their auxiliaries shall be declared of public utility, and in consequence all areas of land and water necessary for the construction, maintenance, and operation of the canal and the other specified works may be expropriated in conformity with the laws of Colombia, except that the indemnity shall be conclusively determined, without appeal by a joint commission appointed by the Governments of Colombia and the United States.

The indemnities awarded by the commission for such expropriation shall be borne by the United States, but the appraisal of said lands and the assessment of damages shall be based upon their value before the commencement of the work upon the canal.

ARTICLE XV.

The Republic of Colombia grants to the United States the ports of the Republic open to commerce as places for any vessels employed in the canal enterprise, and for a vessel having the right to pass through the canal and wishing to anchor in said ports. Such vessels shall be exempt from anchorage and tonnage dues on the part of Colombia.

ARTICLE XVI.

The canal, when constructed, and the entrances thereto shall be neutral in perpetuity, and shall be opened upon equal terms to the vessels of all nations at uniform tonnage and other rates that may be imposed in virtue of the stipulations of this convention and in conformity with the stipulations of the treaty entered into by the Governments of the United States and Great Britain on November 18, 1901, and known as the Hay-Pauncefote treaty.

ARTICLE XVII.

The Government of Colombia shall have the right to transport over the canal its vessels, troops, and munitions of war at all times without paying charges of any kind. This exemption is to be extended to the auxiliary railway for the transportation of persons in the service of the Republic of Colombia or of the department of Panama, or of the police force charged with the preservation of public order, as well as to their baggage, munitions of war, and supplies.

ARTICLE XVIII.

The United States shall have full power and authority to establish and enforce regulations for the use of the canal, railways, and the entering ports and auxiliary works, and to fix rates of tolls and charges thereof, subject to the limitations stated in Article XVI.

ARTICLE XIX.

The rights and privileges granted to the United States by this convention shall not affect the sovereignty of the Republic of Colombia over the real estate that may be acquired by the United States by reason of the transfer of the rights of the New Panama Canal Company and the Panama Railroad Company lying outside of the said canal zone.

ARTICLE XX.

If, by virtue of any existing treaty between the Republic of Colombia and any third power, there may be privileges or concessions relative to an interoceanic means of communication which especially favors such third power, and which in any of its terms may be incompatible with the terms of the present convention, the Republic of Colombia agrees to cancel or modify such treaty in due form, for which purpose it shall give to the said third power the requisite notification within the term of four months from the date of the present convention; and

~~Colombia~~ existing treaty contains no clause permitting their involuntary annulment, the Republic of Colombia agrees to procure its modification or annulment in such form that there shall not exist any conflicts with the stipulations of the present convention.

ARTICLE XXI.

The rights and privileges granted by the Republic of Colombia to the United States in the preceding articles are understood to be free of all anterior concessions or privileges to other governments, corporations, syndicates, or individuals, and consequently, if there should arise any claims on account of the present concessions and privileges, the claimants shall resort to the Government of Colombia and not to the United States for any indemnity or compromise which may be required.

ARTICLE XXII.

The Government of Colombia renounces the participation to which it might be entitled in the future earnings of the canal under Article XV of the contract with the "Universal Panama Canal Company," and it likewise renounces, now and hereafter, all the rights reserved in the said concession which shall belong to Colombia at the expiration of the term of ninety-nine years of the concession granted to the above-mentioned company.

ARTICLE XXIII.

If it should become necessary at any time to employ armed forces for the safety or protection of the canal, or of the ships that make use of the same, or the railways and other works, the Republic of Colombia agrees to provide the forces necessary for such purpose, according to the circumstances of the case; but if the Government of Colombia can not effectively comply with this obligation, then, with the consent of or at the request of Colombia, or of her minister at Washington, or of the local authorities, civil or military, the United States shall employ such force as may be necessary for that sole purpose, and as soon as the necessity shall have ceased will withdraw the forces so employed. Under exceptional circumstances, however, on account of unforeseen or imminent danger to said canal, railways, and other works, or to the lives and property of the persons employed upon the canal, railways, and other works, the Government of the United States is authorized to act in the interest of their protection, without the necessity of obtaining the consent beforehand of the Government of Colombia; and it shall give immediate advice of the measures adopted for the purpose stated; and as soon as sufficient Colombian forces shall arrive to attend to the indicated purpose, those of the United States shall retire.

ARTICLE XXIV.

The Government of the United States agrees to complete the construction of the preliminary works necessary, together with all the auxiliary works, in the shortest time possible; and within two years from the date of the exchange of ratification of this convention the main works of this canal proper shall be commenced, and it shall be

opened to the traffic between the two oceans within twelve years of such period of two years. In case, however, that any difficulties or obstacles should arise in the construction of the canal which it is now present impossible to foresee, in consideration of the good faith of which the Government of the United States shall have paid the large amount of money expended so far on the works and the nature of the difficulties which may have arisen, the Government of Colombia will prolong the terms stipulated in this article to twelve years more for the completion of the work of the canal.

ARTICLE XXV.

As the price or compensation for the right to use the zone granted in this convention by Colombia to the United States for the construction of a canal, together with the proprietary right over the Panama Railroad, and for the annuity of \$250,000 gold, which Colombia ceases to receive from the said railroad, as well as in compensation for other rights, privileges, and exemptions granted to the United States, and in consideration of the increase in the administrative expenses of the department of Panama consequent upon the construction of the said canal, the Government of the United States binds itself to pay Colombia the amount of \$7,000,000 in American gold on the exchange of the ratification of this convention after its approval by the legislative bodies of both countries, and fourteen years after the date aforesaid a fair and reasonable annuity, that shall be agreed upon by the contracting Governments three years before the expiration of the above-mentioned term of fourteen years.

In fixing this fair and reasonable annuity there shall be taken into consideration the present price of the usufruct of the railway as well as the compensation that is to be stipulated for the use of the zone and for the additional administrative expenses that the construction of the canal will impose upon Colombia; and also the advanced payment of \$7,000,000 and the comparative cost and conditions upon which the United States reasonably could have expected to acquire concessions satisfactory to it in respect of any other canal route.

Three years before the expiration of each term of one hundred years the annuity for the following term shall be fixed in a similar manner.

But in the event that the parties are unable to come to an understanding within the periods above referred to as to such fair and reasonable annuity, then before the second year prior to the termination of the periods above referred to, the contracting parties shall proceed to constitute a high commission, to be composed of five members, of whom two shall be appointed by Colombia, two by the United States, and the fifth (who shall be the president of such high commission) shall be the president, for the time being, of the International Peace Tribunal of the Hague; and the determination reached by said commission, by a majority vote, concerning such fair and reasonable annuity that is to be paid to Colombia by the United States in conformity with this article, shall be binding upon the contracting parties.

But no delay nor difference of opinion in fixing such amount shall affect nor interrupt the full operation and effect of this convention in all other respects.

Colombia

ARTICLE XXVI.

If after the lapse of five years from the date of this convention the necessary works for the opening of the canal should not have been commenced by the United States, or if after the expiration of the twelve years stipulated for the completion of the work, and the extension of twelve years referred to in Article XXIV, the canal should not be opened to commerce, all the concessions granted by this convention shall be forfeited, and all the works, principal and accessory, machinery, and properties of the canal shall become the property of the Republic of Colombia, and the same Republic shall recover its actual rights over the Panama Railway, without any obligation to return any of the sums that it may have received in conformity with this convention.

ARTICLE XXVII.

This convention, when signed by the contracting parties, shall be submitted for legislative approval, and shall be exchanged within a term of eight months from this date.

DEPARTMENT OF STATE,
Washington, April 21, 1902.

SIR: I have the honor to acknowledge receipt at your hands of a communication dated the 31st of March, 1902, and another of the 18th of April, inclosing a proposal of the Republic of Colombia for a concessionary convention or treaty between the Republic of Colombia and that of the United States of America respecting the completion, maintenance, operation, control, and protection of an interoceanic canal over the Isthmus of Panama.

I am directed by the President to inform you that I shall be ready to sign with you the proposed convention as soon as—

First. The Congress of the United States shall have authorized the President to enter into such an arrangement; and

Second. As soon as the law officers of this Government shall have decided upon the question of the title which the New Panama Canal Company is able to give of all the properties and rights claimed by it and pertaining to a canal across the Isthmus and covered by the pending proposal.

Accept, sir, the renewed assurances of my highest consideration.

JOHN HAY.

Señor Don JOSÉ VICENTE CONCHA.

[Translation.]

LEGATION OF COLOMBIA,
Washington, D. C., April 23, 1902.

SIR: I have the honor to acknowledge the reception of your excellency's communication of the 21st instant, by which you are pleased to inform me that you are authorized by the President of the United States to sign with the Republic of Colombia the treaty relative to the

opening of the Panama Canal, and the other details connected with the said work, in accordance with the draft I submitted to the Government of the United States on the 18th instant, and that you will proceed to do so as soon as permission shall have been given by the Congress of this Republic, and as the official lawyers shall have given their opinion regarding the title of the new canal company for the transfer of its rights.

When the occasion to sign the above-mentioned treaty shall arise I will present, according to usage, the full powers authorizing me to do so.

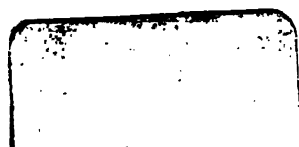
Accept, excellency, the sentiments of my high consideration.

JOSÉ VICENTE CONCHA.

Hon. JOHN HAY,

*Secretary of State of the United States,
Department of State.*

1. The first part of the document is a list of names and titles.



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